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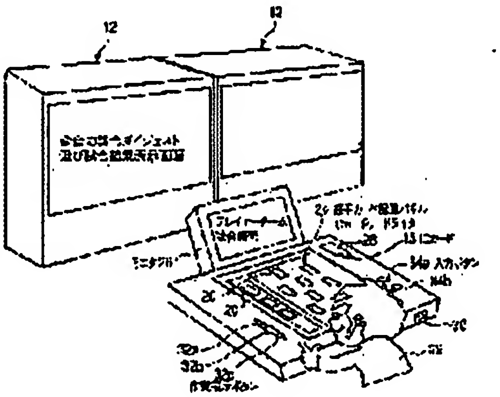
## (54) CARD GAME DEVICE, CARD DATA READER, CARD GAME CONTROL METHOD, RECORDING MEDIUM, PROGRAM AND CARD

(57)Abstract:
PROBLEM TO BE SOLVED: To progress a game by reading data which is recorded in a card.

SOLUTION: A card game device 10 is provided with two large panel displays 12, a main control part 14 for controlling the display of the large panel displays 12 and a plurality of terminals units 16a-16h which are connected to the main control part 14 so that the units 16a-16h can communicate with the part 14. A player purchases an IC card 18 and eleven athlete cards 20 where the photographs of respective soccer players are printed. When the game player puts the athlete card 20 on the athlete card arrangement panel 24 of a terminal unit 16, an internal image sensor reads card data which is recorded on the rear surface of the cards 20. Then data of the athletes constituting a team is generated from each piece of card data and the game is started. The player instructs the positioning and formation of the athletes by changing the arrangement of the athlete cards 20.



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## CLAIMS

[Claim(s)]
[Claim 1] The card game equipment characterized by coming to have the play field in which the card of arbitration is alternatively laid among two or more cards equipped with the data of a proper, a card data reading means read the data of the card laid in this play field, an image generation means generate the image according to the card data read by this card data reading means, and a display means display the game image generated by this image generation means.
[Claim 2] Card game equipment according to claim 1 characterized by coming to have a card location detection means to detect in which location of two or more of said card installation fields said card is laid by establishing two or more card installation fields where said card is alternatively laid in the predetermined location according to the contents of a game in said play field.
[Claim 3] Card game equipment according to claim 1 characterized by coming to have a card sense detection means to detect the sense of the card laid in said play field.
[Claim 4] Said play field is card game equipment according to claim 1 characterized by being the laminated structure which piled up the sheet member which penetrates the translucent sheet member or invisible light by which the card installation field according to the contents of a game was printed on the transparent plate surface.
[Claim 5] Said sheet member is card game equipment according to claim 4 characterized by having the flat surface in which said two or more cards are laid, and forming detailed irregularity in the front face of this flat surface.
[Claim 6] The card characterized by having card data for the pattern according to individual according to the contents of a game being printed by the front face, and distinguishing the property of said pattern proper at a front face or the rear face.
[Claim 7] The card characterized by recording the code pattern which curved to the circumferencial direction as card data.
[Claim 8] Said code pattern is a card according to claim 7 characterized by forming in concentric circular two or more patterns with which radii differ.
[Claim 9] Said code pattern is a card according to claim 7 characterized by being formed identifiable by the optical reading means which used infrared radiation.
[Claim 10] Said code pattern is a card according to claim 7 characterized by recording a part in the shape of radii to a rectangular card side among the circular patterns of the outermost periphery located in a radius [ major diameter / part / for a short side part ].
[Claim 11] Said code pattern is a card according to claim 7 characterized by having the location detection circle for detecting a card location, the inside data formed inside this location detection circle, and outside data formed in the outside of said location detection circle.
[Claim 12] Said location detection circle is a card according to claim 11 characterized by having arranged the include-angle detection pattern for detecting the include angle of a card on a periphery at intervals of an ununiformity.
[Claim 13] Said code pattern is claim 7 characterized by being formed in both sides on a card face and the rear face of a card thru/or any of 12 or the card of a publication.
[Claim 14] Claim 7 characterized by recording a code pattern which is different with said card face and said card rear face thru/or any of 12 or the card of a publication.

[Claim 15] Claim 7 characterized by printing the alphabetic character according to the contents of information and image of said code pattern on said code pattern thru/or any of 12 or the card of a publication.
[Claim 16] The card data reader characterized by reading the code pattern recorded on the card by the optical reading means using infrared radiation.
[Claim 17] The card data reader characterized by coming to have a discernment means detect the location of said location detection circle by identifying the periphery profile data formed of the inner-circumference profile data formed of the inner-circumference edge of a location detection circle and the inside of this location detection circle recorded on the card, and the periphery edge of said location detection circle and the outside of this location detection circle.
[Claim 18] Said discernment means is a card data reader according to claim 17 characterized by generating said inner circumference profile data and periphery profile data from the concentration difference of the profile and the circumference of said location detection circle.
[Claim 19] The 1st procedure which generates the inner circumference profile data formed of the inner circumference edge of a location detection circle and the inside of this location detection circle which were recorded on the card, The program for performing the 3rd procedure of identifying the location of said location detection circle by identifying the 2nd procedure which generates the periphery profile data formed of the periphery edge of said location detection circle, and the outside of this location detection circle, and said inner circumference profile data and said periphery profile data.
[Claim 20] The program for performing the 1st procedure detect the location of the location detection circle recorded on a card, the 2nd procedure detect the include-angle detection pattern formed in the periphery of said location detection circle, the 3rd procedure detect the pattern recorded inside said location detection circle, and the 4th procedure detect the pattern recorded on the outside of said location detection circle.
[Claim 21] Said card is card game equipment according to claim 1 characterized by what the data pattern according to the data in which the property of the pattern proper printed by said front face is shown was printed for by the front face or the rear face.
[Claim 22] Said data pattern is card game equipment according to claim 7 characterized by being printed in the ink which produces the reflected light when invisible light is irradiated so that the signal according to the property of the character concerned printed by said front face can be read.
[Claim 23] Said card data reading means is card game equipment according to claim 1 characterized by coming to have the light source which irradiates invisible light at the rear face of said card, the image sensors which receive the reflected light reflected from the rear face of said card, and generate image data, and a data discernment means to discriminate said card data from the image data obtained by these image sensors.
[Claim 24] Said card data reading means prepares the marker for detecting the distortion of an image in the four corners of said play field. An amount detection means of gaps to calculate said marker's amount of gaps prepared in the four corners of said play field out of the image data copied by said image sensors, Card game equipment according to claim 23 characterized by coming to have an amendment means acquired by this amount detection means of gaps to shift and to amend the reading error of said card data based on an amount.
[Claim 25] Said card data reading means is card game equipment according to claim 23 characterized by coming to have the reflecting plate in which said image sensors are made to turn and reflect the reflected light which it was inclined and prepared in the rear face of said card at the predetermined include angle, and was reflected from the rear face of said card.
[Claim 26] It is card game equipment according to claim 23 characterized by containing said card data reading means in the case with which said play field is attached in a top face , for said case having the ramp which supports said reflecting plate so that it may incline at a predetermined include angle to said play field , and the guide peg of a player being contained by said ramp bottom .
[Claim 27] The play field in which the card of arbitration is alternatively laid among two or more cards equipped with the data of a proper, and these two or more cards, A card data reading means to read the data of the card laid in this play field, A storage means by which the image data of game expansion according to the combination of two or more cards laid in said play field was memorized, An image selection generation means to choose the game image according to the combination of the card data read by said card data reading means out of the image data of the arbitration memorized by this storage means, Card game equipment characterized by coming to have a display means to display the game image chosen by this image selection means.
[Claim 28] A game result and card game equipment according to claim 27 characterized by coming to have an

external memory means to store each updated parameter in external storage.
[Claim 29] The play field in which the player card of arbitration is alternatively laid among two or more cards equipped with a soccer player's personal data, and these two or more cards, A card data reading means to read the personal data of the soccer player of the card laid in this play field concerned, A team parameter setting means to set up the play level of the team according to the combination of the personal data of two or more cards laid in said play field, A storage means by which the game image according to the personal data read by this card data reading means was memorized, An image selection generation means to choose the image data of the arbitration memorized by said storage means according to the team parameter set up by said team parameter setting means, Card game equipment characterized by coming to have a display means to display the game image chosen by this image selection means.
[Claim 30] Card game equipment according to claim 15 characterized by coming to have said individual parameter setup means to update a player individual's individual parameter according to each player's amount of practice.
[Claim 31] Card game equipment according to claim 30 characterized by coming to have a storage means to memorize each player's individual parameter set up from the team parameter set up by said team parameter setting means, and said individual parameter setup means.
[Claim 32] The card data reader characterized by coming to have the play field in which the card of arbitration is alternatively laid among two or more cards equipped with the data of a proper, and a card data reading means to read the data of the card laid in this play field.
[Claim 33] The player election mode in which each player who forms a team is elected from two or more player cards, The player training mode in which said each elected player is practiced, and the game mode which generates the image of a game according to each player parameter and team parameter which were updated by this practice program, The card game control approach characterized by performing the mode which chooses the message of 1 from two or more messages displayed in the middle of a game before and after game termination, and making said selected message reflect in a game.
[Claim 34] The procedure 1 of electing each player who forms a team in a computer from two or more player cards, The procedure 2 of practicing each player elected in said procedure 1, and the procedure 3 which generates the image of a game according to each player parameter and team parameter which were updated by this procedure 2, The record medium which recorded the program for performing the procedure 4 of performing a certain contact with each player after game termination and in which computer reading is possible.
[Claim 35] The program for performing the procedure 1 elect each player who forms a team in a computer from two or more player cards, the procedure 2 practice each player elected in said procedure 1, the procedure 3 that generates the image of a game according to each player parameter and the team parameter which were updated by this procedure 2, and the procedure 4 perform a certain contact with each player after game termination.
[Claim 36] Card game equipment characterized by having the control means which displays on a monitor the simulation image which opposes each team which formed the team and two or more players raised when a player offered two or more cards.
[Claim 37] Card game equipment characterized by having the Maine control section to which the game data according to individual are transmitted from two or more terminal units which read the data of the proper which a card has, and these two or more terminal units, and the large-sized display which is connected to this Maine control section and displays the game image according to each game advance of two or more of said terminal units.
[Claim 38] Said Maine control section is card game equipment according to claim 37 characterized by choosing two terminal units which a player operates from two or more terminal units, and opposing the game data of selection this two terminal units which carried out this.
[Claim 39] Said Maine control section is card game equipment according to claim 37 characterized by opposing the computer of equipment as a virtual partner in the end of an end it was chosen from the remaining terminal unit when equipment cannot be chosen in the end of the other end other players which serve as a waging-war partner to equipment in the end of an end a player operates it among two or more terminal units operate it.
[Claim 40] The play field in which the card of arbitration is alternatively laid among two or more cards equipped with the data of a proper, A card data reading means to read the data of the card laid in this play field, An image generation means to generate the image according to the card data read by this card data reading means, A display means to display the game image generated by this image generation means, Card game

equipment characterized by coming to have an alternative card data generation means to generate the alternative card data which replace the card data for which the recognition concerned is improper when the data of said card cannot be read with said card data reading means.

[Claim 41] The play field in which the card of arbitration is alternatively laid among two or more cards equipped with the data of a proper, A card data reading means to read the data of the card laid in this play field, An image generation means to generate the image according to the card data read by this card data reading means, A display means to display the game image generated by this image generation means, A storage means to memorize the card data used in the past, and after game initiation, When the data of said card cannot be read with said card data reading means, Card game equipment characterized by coming to have an alternative card data offer means to provide as alternative card data which extract the card data of arbitration out of the card data used for the past memorized by said storage means, and replace card data [ that it cannot recognize ].

[Claim 42] Card game equipment according to claim 40 or 41 characterized by coming to have a positional information reading means to read only the positional information of the card laid in said play field when the data of said card cannot be read with said card data reading means.

[Claim 43] Card game equipment according to claim 40 or 41 characterized by coming to have a notice means of card exchange to notify the positional information of the card concerned which cannot be read among the cards laid in said play field, and exchange of the card concerned when the data of said card cannot be read with said card data reading means.

[Claim 44] When the data of said card cannot be read with said card data reading means a storage means to memorize the card data used into the last game, and in this game, Card game equipment according to claim 40 characterized by coming to have a correction card data generation means to read the card data of the past of the card for which the recognition concerned is improper out of the card data memorized by said storage means, and to generate correction card data.

[Claim 45] Said Maine control section is card game equipment according to claim 37 characterized by having a Replay display means to display the digest scene of each game on said large-sized display among two or more games performed based on the input from said two or more terminal units.

[Claim 46] Said Maine control section is card game equipment according to claim 45 characterized by having the Replay display means which chooses the past game scene and is displayed on said large-sized display when the digest scene of each game does not exist among two or more games performed based on the input from that of two or more of said terminal units.

[Claim 47] Said Maine control section is card game equipment according to claim 45 characterized by having the game information-display means on which the progress information on the game under current activation is displayed when the digest scene of each game does not exist among two or more games performed based on the input from said two or more terminal units.

[Claim 48] The memory card insertion section in which the memory card the card data of the card which a player owns were remembered to be is inserted, A reading means to read the information memorized by the memory card inserted in this memory card insertion section, A coin receptionist means to receive an injection of coin after reading the information this reading means was remembered to be by said memory card, a game initiation means to start a card game after this coin receptionist means receives a coin injection, and card game equipment characterized by having.

[Claim 49] Said memory card is card game equipment according to claim 34 characterized by memorizing the skill of the player corresponding to the class and card data of a card which the player concerned owns at least, and the past game result.

[Claim 50] The program for performing the 1st procedure of reading the information memorized by the memory card inserted in the memory card insertion section, the 2nd procedure of receiving a coin injection after reading the information memorized by the memory card, and the 3rd procedure that starts a card game after receiving the input of this coin.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the card game equipment, the card game control approach, the card data reader, the record medium, program, and card which were constituted so that video game predetermined from the contents of a game according to the combination of the card data which read automatically the card data memorized at the rear face of a card, and were laid on the play field might be advanced by arranging a card in on the play field.
[0002]
[Description of the Prior Art] When each player collects cards or puts the card of the stock of each player in order as a game using a card based on the Ruhr which was able to determine the combination of 52 different cards beforehand, for example like cards, there are some which determine victory or defeat.
[0003] Furthermore, for example, among sports lovers, such as soccer and baseball, the cards (called the "trading card") with which a popular player's photograph was printed are collected, or it is in fashion to exchange cards.
[0004] The various methods of enjoying a game along the predetermined Ruhr using such a trading card like cards are proposed. For example, there are some which are seen by JP,2000-288155,A. In this kind of card game, the player which compares the magnitude of the power (level value decided for every character) of the character in which the player itself shared the card and it was printed by the rear face of a card, and has the card of the strong one serves as a victory.
[0005] However, in such a card game, for example, there is the Ruhr, such as complicated combination of a card, and there are problems, like it is difficult to memorize play simply.
[0006] What is seen by JP,2000-157744,A is proposed as game equipment which cancels the dissatisfaction of such a player. The game equipment indicated by this official report equips a portable game machine with the cassette by which game data were recorded, and connects to it the portable game machines which each player owns by the cable, and a card game can be performed more easily, seeing the card image displayed on the screen. Victory or defeat are decided by character information on the cassette with which the portable game machine was equipped also in this case. Therefore, a player can enjoy a game by beating the character of the cassette which collects the cassettes of a stronger character and other players have.
[0007]
[Problem(s) to be Solved by the Invention] However, when a game was performed looking at the imagination card screen displayed on a game machine as mentioned above, pleasure of the collection of the trading card of collecting the real cards itself was not able to be experienced.
[0008] Moreover, with the card game equipment which generates a game image by reading the card data printed by the card, since card data may be unable to be read, and game initiation could not be performed in that case but it changed into the standby condition according to secular change of a card etc., there was a problem that game initiation will be overdue.
[0009] Moreover, in card game equipment, in order to participate in a game, it must correspond also to demand of wanting to know how the game advance situation of each present player progressing to the spectator who has watched a game in the customer who is doing turn waiting, or the perimeter.
[0010] Furthermore, it sets to the card game equipment of the method which participates in a game as an item using the card with which card data were printed. Since only the card purchased by normal can be used, it is

necessary to check that the player owns the card of normal. Since coin is not repaid even if it regulates so that it cannot participate in a game when the card is not owned or the card (imitation card) which is not what was published by normal is owned, after coin is thrown in, there is a possibility of becoming a trouble.
[0011] Furthermore, it is necessary to detect not only the ID code for identifying a card but the location and sense (include angle) of a card with card game equipment. therefore -- for example, if it is going to analyze these ID codes, and the location and sense (include angle) of a card to coincidence out of the image data picturized with image sensors, the number of parameters of data processing will increase and detecting all will take most time amount.
[0012] Moreover, in order to process these data processing at high speed, data are processed sequentially, it narrows down only to required data, and unnecessary data have the effective approach of deleting. However, since information cannot be read unless it comes out from the one direction which intersects a bar code when a certain two-dimensional bar code is used for the data pattern for identifying a card from the former, it is necessary to detect the sense (include angle) at the time of location detection of a card, and the number of parameters which should be processed at once increases, the processing time starts too many, and the problem that game advance is overdue arises. Then, this invention aims at offering the card game equipment, the card game control approach, record medium, and program which solved the above-mentioned technical problem.
[0013]
[Means for Solving the Problem] In order to solve the above-mentioned technical problem, this invention has the following descriptions.
[0014] If invention of the claim 1 above-mentioned publication is read by the card data reading means in the data of the card of thing that was laid in the play field, it can carry out simulation of the game which displays the game image according to card data, is made to display the game image according to the combination of the card data of two or more cards which the player arranged in on the play field, and performs a team play.
[0015] Invention of the claim 2 above-mentioned publication prepares two or more card installation fields where a card is alternatively laid in the play field in the predetermined location according to the contents of a game. When it has a card location detection means to detect in which location of two or more card installation fields the card is laid and a player arranges the character (player) suitable for the position corresponding to each card installation field It becomes possible to set up the game level of a team freely.
[0016] Invention of the claim 3 above-mentioned publication is equipped with a card sense detection means to detect the sense of the card laid in the play field, and can read card data according to the sense of a card.
[0017] Invention of the claim 4 above-mentioned publication is the laminated structure which piled up the sheet member to which the play field penetrates the translucent sheet member or invisible light by which the card installation field according to the contents of a game was printed on the transparent plate surface, for example, can form the simulation ground according to events, such as soccer and baseball, on the play field.
[0018] A sheet member has the flat surface in which two or more cards are laid, detailed irregularity can be formed on the surface of a flat surface, invention of the claim 5 above-mentioned publication can carry out scattered reflection of the light from the outside while being able to prevent that the card laid in the sheet member sticks, it can read card data correctly through a card data reading means, and from a player, is not visible and can have a internal structure.
[0019] Invention of the claim 6 above-mentioned publication by using the card which has the Records Department where the card data for the pattern according to individual according to the contents of a game being printed by the front face, and distinguishing the property of a pattern proper at a front face or the rear face were recorded While being able to collect the cards of various patterns according to various games, or a character (for example, sport player) and being able to collect and enjoy the card of a favorite player or a popular player It becomes possible to make the character property (for example, a sport player's ability) of a card reflect in game expansion.
[0020] When the code pattern with which invention of the claim 7 above-mentioned publication curved to the circumferencial direction uses the card recorded as card data, it becomes possible to read a code pattern irrespective of the sense (include angle) of a card.
[0021] As for invention of the claim 8 above-mentioned publication, it enables a code pattern to also shorten the time amount which two or more patterns with which radii differ are formed in concentric circular, and can divide and record the pattern for location detection, and an information pattern, and reading control takes to

them.

[0022] It becomes possible to form the code pattern identifiable by the optical reading means which used infrared radiation, to carry out invention of the claim 9 above-mentioned publication as [ check / by printing in the coatings of the property to make the front face of a code pattern penetrate infrared radiation / a code pattern ], and to hide the information on the card concerned.

[0023] Among the circular patterns of the outermost periphery with which a code pattern is located in a radius [ major diameter / part / for a short side part ] to a rectangular card side, a part is recorded in the shape of radii, and, as for invention of the claim 10 above-mentioned publication, it becomes possible to use the whole surface product of a card side effectively.

[0024] Invention of the claim 11 above-mentioned publication can perform location detection by high-speed processing while being able to increase amount of information, since a code pattern can record the code pattern in which it has the location detection circle for detecting a card location, the inside data which were formed inside this location detection circle, and outside data which were formed in the outside of said location detection circle, and the code pattern for location detection and the data of the card proper concerned are shown.

[0025] It becomes possible to detect an include-angle detection pattern and to detect the sense (include angle) of a card correctly, after a card carries out location detection of the invention of the claim 12 above-mentioned publication by detecting a location detection circle since the include-angle detection pattern for a location detection circle to detect the include angle of a card on a periphery is arranged at intervals of the ununiformity.

[0026] Invention of the claim 13 above-mentioned publication can read a code pattern, even if the code pattern is formed in both sides on a card face and the rear face of a card and the both sides of a card become reverse.

[0027] It becomes possible to switch the code pattern read by which [ on a card face and the rear face of a card ] invention of the claim 14 above-mentioned publication turns up since a code pattern which is different with a card face and the card rear face is recorded.

[0028] The alphabetic character and image according to the contents of information of a code pattern are printed on a code pattern, and invention of the claim 15 above-mentioned publication prevents forgery and reconstruction of a code pattern by hiding so that the direct-vision private seal of the code pattern cannot be carried out.

[0029] Invention of the claim 16 above-mentioned publication reads the code pattern recorded on the card by the optical reading means which used infrared radiation, is carried out as [ check / by printing in the coatings of the property to make the front face of a code pattern penetrate infrared radiation / a code pattern ], and prevents forgery and reconstruction of a code pattern.

[0030] The inner circumference profile data formed of the inner circumference edge of a location detection circle where invention of the claim 17 above-mentioned publication was recorded on the card, and the inside of a location detection circle, It has a discernment means to detect the location of said location detection circle, by identifying the periphery profile data formed of the periphery edge of a location detection circle, and the outside of a location detection circle, and it becomes possible to detect a card location (coordinate) correctly irrespective of the sense (include angle) of a card.

[0031] It enables a discernment means, as for invention of the claim 18 above-mentioned publication, to detect a card location (coordinate) correctly by generating inner circumference profile data and periphery profile data from the concentration difference of the profile and the circumference of a location detection circle.

[0032] The 1st procedure which generates the inner circumference profile data formed of the inner circumference edge of a location detection circle where invention of the claim 19 above-mentioned publication was recorded on the card, and the inside of a location detection circle, The 2nd procedure which generates the periphery profile data formed of the periphery edge of a location detection circle, and the outside of a location detection circle, The 3rd procedure of identifying the location of a location detection circle by identifying inner circumference profile data and periphery profile data is performed, and it becomes possible to detect a card location (coordinate) correctly.

[0033] The 1st procedure of detecting the location of a location detection circle where invention of the claim 20 above-mentioned publication was recorded on the card, The 2nd procedure of detecting the include-angle detection pattern formed in the periphery of a location detection circle, The 3rd procedure of detecting the pattern recorded inside the location detection circle, and the 4th procedure of detecting the pattern recorded on the outside of a location detection circle are performed, and it becomes possible about a card location (coordinate) and card data exact and to detect at high speed.

[0034] When the data pattern according to the data in which the property of the pattern proper printed by the card face is shown is printed by the card face or the rear face and invention of the claim 21 above-mentioned publication detects a data pattern, it becomes possible to make the pattern property (for example, a sport player's ability) of a card reflect in game expansion.

[0035] Invention of the claim 22 above-mentioned publication can make the interior of a case pitch-black so that a card data reading means may not be in sight from the upper part of the play field, while the data pattern is printed in the ink which absorbs invisible light when invisible light is irradiated so that the signal according to the property of the character concerned printed by the front face can be read, and it can read the data pattern of a card correctly.

[0036] The light source to which a card data reading means irradiates invisible light to invention of the claim 23 above-mentioned publication at the rear face of a card, The image sensors which receive the reflected light reflected from the rear face of a card, and generate image data, A data discernment means to discriminate card data from the image data obtained by image sensors, The character property which is so-called ******** and was recorded on two or more cards laid on the play field It becomes possible to obtain as image data so that a player may not notice the data pattern in which (for example, a sport player's ability) is shown, and the reading time amount of a data pattern can be shortened.

[0037] Invention of the claim 24 above-mentioned publication prepares the marker for detecting the distortion of an image in the four corners of the play field. A marker's amount of gaps prepared in the four corners of the play field out of the image data obtained by image sensors is calculated. The reading error of card data can be amended based on this amount of gaps, and the data pattern in which the character property (for example, a sport player's ability) recorded on two or more cards laid on the play field is shown can be detected correctly.

[0038] Invention of the claim 25 above-mentioned publication is inclined and prepared in the rear face of a card at a predetermined include angle, the reflecting plate in which image sensors are made to turn and reflect the reflected light reflected from the rear face of a card is formed, and it becomes possible to consider a card data reading means as a compact configuration.

[0039] A card data reading means is contained in the case attached in the play field on the top face, it has the ramp which supports a reflecting plate so that it may incline at a predetermined include angle to the play field in a case, and the guide peg of a player is contained by the ramp bottom, and invention of the claim 26 above-mentioned publication can improve operability in case a player arranges a card in on the play field.

[0040] Invention of the claim 27 above-mentioned publication is chosen from the image data of the arbitration memorized by the storage means, and displays the game image according to the combination of the card data read when the data of the card laid in the play field were read, and it becomes possible to carry out simulation of the versus fighting game of the team formed of the combination of the card data read in two or more cards.

[0041] Since invention of the claim 28 above-mentioned publication stores a game result and each updated parameter in external storage, a player enables it to reproduce the result of this game after a play in other locations.

[0042] Invention of the claim 29 above-mentioned publication reads the personal data of the soccer player of the card laid in the play field concerned. The play level of the team according to the combination of each player's personal data memorized by two or more cards is set up. The image data of the arbitration memorized by the storage means according to the set-up team parameter is chosen. The selected game image can be displayed, the soccer game image according to the combination of a soccer player's personal data recorded on two or more cards which the player arranged in on the play field can be displayed, and simulation of the soccer game can be carried out.

[0043] By updating a player individual's individual parameter according to each player's amount of practice, invention of the claim 30 above-mentioned publication can raise a player, and can raise each player's game level.

[0044] When invention of the claim 31 above-mentioned publication memorizes each player's individual parameter set up from the team parameter and individual parameter setup means which were set up by the team parameter setting means, it becomes possible to make the result of the practice and the game which were held at the last play reflect in a next play.

[0045] Among two or more cards equipped with the data of a proper, invention of the claim 32 above-

mentioned publication is equipped with the play field in which the card of arbitration is laid alternatively, and a card data reading means to read the data of the card laid in the play field, can read the data of two or more cards to coincidence, and can shorten reading time amount.
[0046] The player election mode in which each player in whom invention of the claim 33 above-mentioned publication forms a team is elected from two or more player cards, The player training mode in which each elected player is practiced, and the game mode which generates the image of a game according to each player parameter and team parameter which were updated by the practice program, By the control approach of making the message which was made performing the mode which chooses the message of 1 and was chosen from two or more messages displayed in the middle of a game before and after game termination reflecting in a game The player whom the player elected can be made to be able to raise, the level of a team can be raised, and each player's practice result can be confirmed in a game.
[0047] The procedure 1 of electing each player by whom invention of above-mentioned claim 34 and 35 publications forms a team in a computer from two or more player cards, The procedure 2 of practicing each player elected in the procedure 1, and the procedure 3 which generates the image of a game according to each player parameter and team parameter which were updated by the procedure 2, By making a computer read the program for performing the procedure 4 of performing a certain contact with each player after game termination Simulation of the game whose player displays the game image according to a player's parameter and team parameter which were recorded on two or more cards arranged in on the play field, and performs a team play can be carried out.
[0048] A team can be formed by offering the card of plurality [ invention / of the claim 36 above-mentioned publication / player ], and it has the control means which displays on a monitor the simulation image which opposes each team which two or more players raised, it becomes possible to play a game between the teams of each player, and each player can participate in a game as a supervisor of a team.
[0049] Invention of the claim 37 above-mentioned publication is equipped with the Maine control section to which the game data according to individual are transmitted, and the large-sized display which is connected to the Maine control section and displays the game image according to each game advance of two or more terminal units from two or more terminal units which read the data of a card, and two or more terminal units, and player of a lot of people can operate two or more terminal units to coincidence, and it can enjoy a game.
[0050] By the Maine control section's choosing two terminal units which a player operates from two or more terminal units, and opposing the game data of selection this two terminal units which carried out this, unknown players can be pitched against each other on a computer, and invention of the claim 38 above-mentioned publication can vie in mutual capacity.
[0051] When equipment cannot be chosen in the end of the other end other players which serve as a waging-war partner to equipment in the end of an end a player operates it among two or more terminal units operate it, invention of the claim 39 above-mentioned publication can be pitched against each other by opposing the computer of equipment as a virtual partner in the end of an end it was chosen from the remaining terminal unit, even when the number of players is insufficient.
[0052] It becomes possible to start a card game, using alternative card data instead, and invention of the claim 40 above-mentioned publication cancels the game delay which depends improper [ reading of card data ], even when the alternative card data which replace the card data for which the recognition concerned is improper when the data of the card laid in the play field with the card data reading means cannot be read do not generate and the data of a card cannot be read [ for example, ] according to secular change of a card etc.
[0053] When invention of the claim 41 above-mentioned publication cannot read the data of a card with a card data reading means after game initiation, The card data of arbitration are extracted out of the card data used for the past memorized by the storage means. It is what is offered as alternative card data which replace card data [ that it cannot recognize ]. For example, even when the data of a card cannot be read according to secular change of a card etc., it becomes possible to start a card game, using alternative card data instead, and the game delay depended improper [ reading of card data ] is canceled.
[0054] Invention of the claim 42 above-mentioned publication reads only the positional information of the card laid in the play field when the data of a card were not able to be read, and it becomes possible to recognize the location of the card using alternative card data.
[0055] When the data of a card cannot be read with a card data reading means, invention of the claim 43 above-

mentioned publication notifies the positional information of the card concerned which cannot be read among the cards laid in the play field, and exchange of the card concerned, and it becomes possible to start a card game by making it exchange for another card to a player, and it cancels the game delay depended improper [ reading of card data ].

[0056] A storage means to memorize the card data with which invention of the claim 44 above-mentioned publication was used into the last game, When the data of a card cannot be read with a card data reading means in this game, A correction card data generation means to read the card data of the past of the card for which the recognition concerned is improper out of the card data memorized by the storage means, and to generate correction card data, The card data used into the last game memorized by preparation ****** and the storage means can be used as correction card data, and the game delay depended improper [ reading of card data ] is canceled.

[0057] Invention of the claim 45 above-mentioned publication displays the digest scene of each game on a large-sized display among two or more games performed based on the input from two or more terminal units, can advertize the fun of a game to the new customer who has not participated in a game, and has customer gathering effectiveness raised while it can prevent that the customer who is doing turn waiting other than a player is bored.

[0058] When the digest scene of each game does not exist among two or more games by which invention of the claim 46 above-mentioned publication is performed based on the input from that of two or more terminal units, Choose the past game scene and it is made to display on a large-sized display, and while being able to prevent that the customer who is doing turn waiting other than a player is bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness is raised.

[0059] Invention of the claim 47 above-mentioned publication displays the progress information on the game under current activation, can advertize the fun of a game to the new customer who has not participated in a game, and has customer-gathering effectiveness raised when the digest scene of each game does not exist among two or more games performed based on the input from two or more terminal units while it can prevent that the customer who is doing turn waiting other than a player is bored.

[0060] It prevents that the player which does not own the memory card participates in a game while it receives a coin injection, starts a card game after that and can start a game based on the data of the card read in the memory card which a player owns, after invention of the claim 48 above-mentioned publication reads the card information the reading means was remembered to be by the memory card.

[0061] It becomes possible to check that invention of the claim 49 above-mentioned publication has rating for a player participating in a game while data required for a game are obtained by reading the information memorized by the memory card, since the skill of the player corresponding to the class and card data of a card which the player concerned owns at least in a memory card, and the past game result are memorized.

[0062] The 1st procedure of reading the information memorized by the memory card by which invention of the claim 50 above-mentioned publication was inserted in the memory card insertion section, By reading the program for performing the 2nd procedure of receiving a coin injection after reading the information memorized by the memory card, and the 3rd procedure which starts a card game after receiving the input of coin While being able to start a game based on the data of the card read in the memory card which a player owns, it prevents that the player which does not own the memory card participates in a game.

[0063]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained with a drawing. Drawing 1 is the perspective view showing the whole one example configuration of the card game equipment which becomes this invention. Drawing 2 is the perspective view showing the terminal unit which each player of the card game equipment which becomes this invention operates. drawing 1 -- and -- drawing 2 -- being shown -- having -- as -- a card -- a game -- equipment -- ten -- two -- a set -- large-sized -- a panel display -- 12 -- large-sized -- a panel display -- 12 -- a display control -- carrying out -- Maine -- a control section -- 14 -- Maine -- a control section -- 14 -- a communication link -- possible -- connecting -- having had -- plurality (this example eight pieces) -- a terminal unit -- 16 -- a - 16 -- h -- from -- constituting -- having -- **** .

[0064] With the card game equipment 10 of this example, a soccer game can be performed now and, of course, it can apply also to sporting events other than soccer (for example, game pitched against each other in teams, such as baseball, Rugby, American football, and hockey). As for the large-sized panel display 12, images, such as the whole soccer stadium image, a game digest of all seats, and a game result of all seats, are displayed. The player which participates in a game for the first time takes a seat in each seat in which the start set (item) required for a game was purchased first, and terminal units 16a-16h were installed. IC card (memory card) 18 used as a record medium which records a practice result, a game result, etc., and 11 player cards 20 with which each soccer player's photograph was printed are contained in this start set.

[0065] In addition, the photograph of a player who is different on a front face, respectively is printed so that the player card 20 may be mentioned later, and the data pattern (identification code) for identifying the player individual printed by the front face is recorded on the rear face. Moreover, the skill of the player corresponding to the class and card data of the player card 20 with which the player concerned owns IC card 18 at least, and the past game result are memorized. Therefore, while data required for a game are obtained by reading the information memorized by IC card 18, it can check having rating for a player 22 participating in a game.

[0066] Since terminal units 16a-16h are the same configurations, respectively, they explain terminal unit 16a here. The player card arrangement panel 24 for terminal unit 16a to lay the player card 20 which a player 22 owns, the monitor 26 with which the practice of a soccer team and the image of a game which the player 22 made are displayed, the IC card read/write 28 in which IC card 18 is inserted, and the card issue section 30 which a player card pays out after game termination are formed. Moreover, the operation select buttons 32a-32c for carrying out the selection directions of the strategy menu are formed in the left-hand side of the player card arrangement panel 24, and the input buttons 34a and 34b which direct player power etc. are formed in the right-hand side of the player card arrangement panel 24. a player 22 is obtained by operating operation select buttons 32a-32c, and can give a player directions during practice or a game. That is, a player 22 operates operation select buttons 32a-32c, for example, a side attack etc. can direct tactics, a chute to gall can be directed, or it can change the camera of the game scene displayed on a monitor 26.

[0067] Drawing 3 is the block diagram showing the system configuration of one example of the card game equipment which becomes this invention. The Maine control section 14 is connected with the large-sized panel control section 36 for carrying out the display control of the large-sized panel display 12 through the hub 40 of LAN (Local Area Network)38, and each terminal units 16a-16h with the external network (not shown).

[0068] The large-sized panel control section 36 has CPU42, memory (RAM) 44, an input/output interface 46, the sound circuit 48, and the graphical display circuit 50. The various image data (for example, the whole soccer stadium image, each player's play image, the digest scene under current game, or the gall scene of the past game etc.) displayed on the large-sized panel display 12 and the various image data displayed on the large-sized panel display 12 are sorted out in memory (RAM) 44, and the control program which determines priority and indicates by sequential is stored in it. The switch 52 for an input/output interface 46 to operate the Maine control section 14 and the large-sized panel display 12 is connected. The sound circuit 48 is connected to the sound amplifier 54 which outputs the voice according to the various images displayed on the large-sized panel display 12. The graphical display circuit 50 displays on the large-sized panel display 12 the images (for example, the whole soccer stadium image, each player's play image, the digest scene under current game, or the gall scene of the past game etc.) chosen by the control signal from CPU42.

[0069] Moreover, each terminal units 16a-16h have CPU62, memory (RAM) 64, an input/output interface 66, the sound circuit 68, and the graphical display circuit 70. The various image data (for example, various game selection images, each player's play image, etc.) displayed on a monitor 26 and a control program are stored in memory (RAM) 64. The switch 72 for operating image sensors 56 and a monitor 26 for an input/output interface 66 reading the card data memorized at the rear face of the IC card read/write 28 and the player card 20 other than the Maine control section 14 is connected. The sound circuit 68 is connected to the sound amplifier 74 which outputs the voice according to the various images displayed on a monitor 26. The graphical display circuit 50 displays on a monitor 26 the image chosen by the control signal from CPU62.

[0070] Drawing 4 is the top view which saw the player card arrangement panel 24 from the top. Drawing 5 is drawing of longitudinal section of a case 76 in which the player card arrangement panel 24 was attached. As shown in drawing 4 and drawing 5 R> 5, the player card arrangement panel 24 consists of a transparent glass plate 78 attached so that top-face opening 76a of a case 76 might be closed, and a thin sheet 80 for the play fields by which the laminating was carried out to the top face of a glass plate 78.

[0071] The player card 20 is laid in the top face of the sheet 80 for the play fields. And the light source 82 which irradiates infrared radiation (invisible light) at the rear face of the player card 20 laid in the interior of a case 76 by the player card arrangement panel 24, The 1st filter 84 which removes the light from the light which emitted light from the light source 82, The image sensors 56 which picturize the pattern of the card data memorized at the rear face of the player card 20 laid on the player card arrangement panel 24, The 1st reflecting plate 86 made to reflect upwards the reflected light reflected with the rear face of the player card 20, The 2nd reflecting plate 88 which leads the reflected light (invisible light) reflected with the 1st reflecting plate 86 to image sensors 56, and the 2nd filter 90 from which the disturbance light (light) contained in the reflected light which reflected with reflecting plates 86 and 88 is removed are attached. The light source 82 consists of light emitting diode (LED) which emits light in the invisible light which is not visible with a naked eye like infrared radiation or ultraviolet rays. Of course, when the light does not emit light from the light source 82, the 1st filter 84 can be removed.

[0072] The 1st reflecting plate 86 is supported by bottom ramp 76b of a case 76 so that it may incline by alpha whenever [ predetermined tilt-angle ] to the player card arrangement panel 24 prepared horizontally. Moreover, the 2nd reflecting plate 88 is attached by whenever [ according to whenever / champing-angle / of the 1st reflecting plate 86 / tilt-angle ].

[0073] When a player 22 takes a seat, the guide peg of a player 22 can make it insert under the bottom ramp 76b, since a case 76 has bottom ramp 76b. Therefore, in case the player card 20 is arranged in on the player card arrangement panel 24, it can become possible to lengthen a hand to the location in the inner part of the player card arrangement panel 24, and a player 22 can make the player card 20 lay also where of the whole surface of the player card arrangement panel 24.

[0074] Since the infrared radiation (invisible light) which had the light cut from the light source 82 is irradiated by the player card arrangement panel 24, the player card arrangement panel 24 cannot be looked in through the interior of the sealed case 76 of a case 76 seen from a top.

[0075] Drawing 6 is the top view expanding and showing the player card arrangement panel 24 and control unit of terminal unit 16a. As shown in drawing 6 , the player card arrangement panel 24, and the operation select buttons 32a-32c and input buttons 34a and 34b which a player operates are formed in the top face of a case 76. The participation player card arrangement field 92 for arranging the player card 20 which serves as a regular, and the sub player card arrangement field 94 for arranging the player card 20 which serves as a player of bracing are formed in the top face of the player card arrangement panel 24.

[0076] Moreover, a player 22 can arrange 11 player cards 20 of the participation player card arrangement field 92 out of the player card 20 on hand, and can arrange the player card 20 to five sheets as a player of bracing in the sub player card arrangement field 94.

[0077] Moreover, it is operated as selection ** to which the cursor on the menu image with which operation select button 32a was displayed on the monitor 26 is moved upward, and selection ** to which operation select button 32b moves downward the cursor on the menu image with which decision button and operation select button 32c was displayed on the monitor 26.

[0078] Moreover, input button 34a is an operating button for changing into best level the parameter of the player card 20 arranged in the participation player card arrangement field 92, and input button 34b is an operating button for changing into physical strength preservation level the parameter of the player card 20 arranged in the participation player card arrangement field 92.

[0079] Moreover, each data, such as a title which gained IC card 18 according to record against an opponent (game result) with the team capacity (growth value) and the other teams according to practice and a game result, is memorized. And a player 22 makes each data which inserts IC card 18 in the IC card read/write 28, and is memorized by IC card 18 read into a terminal unit 16, before carrying out game initiation.

[0080] Drawing 7 is the top view showing an example of the printing pattern of the player card arrangement panel 24. As shown in drawing 7 , the white line frame 96 in which the above-mentioned participation player card arrangement field 92 is shown, and **** 98 which shows the sub player card arrangement field 94 are printed by the rear face of the sheet 80 for the play fields of the player card arrangement panel 24. furthermore, in the rear face of the sheet 80 for the play fields The forward field 100 for dividing the participation player card arrangement field 92 into three blocks, and arranging a forward's (FD)'s player card 20, The midfielder field 102 for arranging a midfielder's (MD)'s player card 20, The defender field 104 for arranging a defender's (DF)'s player card 20 and the goalkeeper field 105 for arranging a goalkeeper's (GK)'s player card 20 are printed in the ink in which green shades differ.

[0081] Each of this field 100,102,104,105 is printed in the pigment ink which penetrates infrared radiation so that the card data (data including a player's discernment data and skill which were printed by the card concerned) recorded on the rear face of the player card 20 can be recognized. Moreover, the sub player card arrangement field 94 is printed by the rear face of the sheet 80 for the play fields in brown ink, and five yellow line frames 106 are printed so that the player card 20 of bracing can be placed to five sheets.
[0082] In addition, with card game equipment 10, the position is decided any of a forward, a midfielder, a defender, and a goalkeeper to be by the player currently printed by each player card 20, for example, and when in agreement with a player's position where the field in which each player card 20 was laid was printed by the player card 20, a player parameter and a team parameter are usually set as a value.
[0083] However, when not in agreement with a player's position where the field in which each player card 20 was laid was printed by the player card 20, a player parameter and a team parameter are set as a low value. For example, when a forward's (FD)'s player card 20 is laid in the defender field 102, the effect of the aggressivity of a team becoming weaker etc. comes out.
[0084] Moreover, the player 22 which is a supervisor can decide which player card 20 to lay in each field 100,102,104. Moreover, a player 22 can decide whether to carry out the game start of the number of sheets of the player card 20 arranged to each field 100,102,104 in the formation of 3-3-4, 3-4-3, and 4-3-3 throat.
[0085] Drawing 8 is drawing of longitudinal section expanding and showing the cross-section structure of the player card arrangement panel 24. As shown in drawing 8 , the player card arrangement panel 24 is the laminated structure which laid the sheet 80 for the play fields in the top face of the glass plate 78 for reinforcement, and the sheet 80 for the play fields is a transparent product made of polycarbonate resin, and it has the duty which protects each above-mentioned field 100,102,104 printed by the inferior surface of tongue, the sub player card arrangement field 94, the white line frame 96, and yellow line frame 106 grade. And the detailed irregularity (called the "crimp") 110 is formed in the top face of the sheet 80 for the play fields.
[0086] If this detailed irregularity 110 is shown in a front face, when the player card 20 is laid, it does not stick, but the player card 20 can be taken easily or can be moved. Furthermore, since the sheet 80 for the play fields has the detailed irregularity 110 in a front face, the light from the outside reflects irregularly, and it becomes translucent, and also has the duty of eye hiding for the ability not to look in of a case 76. And since the light source 82 emits light in invisible light, the interior of a case 76 has the pitch-black interior of a case 76 also seen from a top in the player card arrangement panel 24, and a player 22 cannot see the interior of a case 76.
[0087] In addition, the pigment ink which penetrates infrared radiation other than black and white is used for the ink layer 108. This is because card data are recorded by the pattern of black and white if it sees with invisible light at the rear face of the player card 20.
[0088] Drawing 9 is drawing showing an example of the card data memorized at the rear face of the player card 20. As shown in drawing 9 , if it sees with invisible light, the pattern printed by white and black is recorded on the rear face of the player card 20 as the Records Department of the card data 112. Although this card data 112 does not usually have the amount of visible Kurobe with the naked eye, it is printed in the special ink which absorbs invisible light, such as infrared radiation. The white part 113 of the rear face of the player card 20 is made of the paper and ink which will be reflected if invisible light is irradiated. Therefore, if the invisible light from the light source 82 is irradiated by the rear face of the player card 20, only the invisible light irradiated by the white part except a part for Kurobe of the card data 112 will reflect, incidence will be carried out to image sensors 56, and the pattern of the card data 112 will be picturized.
[0089] Moreover, the card data 112 are printed so that the methods of three of the left-hand side except a top, right-hand side, and the bottom make 1 bit the pattern of Kurobe part 112e and 112f of white parts formed in 112d of storage regions surrounded by black frames 112a-112c in the shape of a square, for example, 8 bits may be detected in a lengthwise direction and monochrome pattern of a triplet may be detected in a longitudinal direction.
[0090] Moreover, since the black frame is not prepared, only the card data 112 bottom can distinguish the include angle of the player card 20 from the location of black frames 112a-112c. Moreover, since the perimeter of the card data 112 is white, the profile of the card data 112 can be extracted easily.
[0091] In addition, the player card 20 is printed in the ink in which photographs, such as a player, a profile, etc. penetrate invisible light, and is printed in the ink which absorbs invisible light so that the card data 112 cannot view in piles in the image with the naked eye. Moreover, the rear face of the above-mentioned player card 20

may print the card data 112 in the ink made to reflect invisible light contrary to the above, and may print the white part 113 in the ink which absorbs invisible light.

[0092] Moreover, although the above-mentioned card data 112 are printed by the rear face of the player card 20, they may be formed by approaches not only this but other than printing (for example, seal attachment, magnetic data, etc. are included).

[0093] Here, the discernment approach of the card data memorized at the rear face of the player card 20 is explained. Drawing 10 is a flow chart which shows the control processing for recognizing the card data memorized at the rear face of the player card 20 laid in the player card arrangement panel 24.

[0094] As shown in drawing 10 , by CPU62 of terminal unit 16a, an injection of coin performs noise cut processing using a median filter by S11. This noise cut processing removes noises, such as a pixel chip of image sensors 56.

[0095] Here, 1 dot which adjoins 1 dot chosen as an object for all dots about the longitudinal direction where each bit of a reading code was located in a line, and its right and left (longitudinal direction) is chosen. An example of 3 dots chosen as drawing 11 (A) is shown. Here, the brightness value of the dot is displayed in the rectangle which shows each dot. This brightness value of 3 dots is sorted in ascending order, and a middle value is calculated. In drawing 11 (B), the brightness value 21 of a left dot is a middle value. This middle value is updated as shown in drawing 1111 (B) as a brightness value of an object dot (central dot).

[0096] Thus, the noise resulting from the deficit of the dot of image sensors etc. is removable. In addition, since resolution falls by noise cut processing, noise cut processing of the dot which adjoins a lengthwise direction is not performed.

[0097] In the following S12, spherical-surface amendment filtering which amends distortion of the lens of image sensors 56 is performed. This spherical-surface amendment filtering is processing which obtains an image without distortion as removed distortion of the image resulting from distortion of the lens system of image sensors as shown in drawing 12 (A) and shown in drawing 12 (B). Here, an image shall consist of 640x480 dots.

[0098] First, the next operation is performed in order to change the image coordinate after conversion (i, j) into the coordinate (x y) from which the coordinate of the dot of the core of a 640x 480-dot image is set to (0, 0), as shown in drawing 13 (A).

[0099]

The next operation is performed in order to ask for the distance d and the include angle a of a dot which are changed from the core of a coordinate, as shown in $x=(i-320)+0.5y=(j-240)+0.5$, next drawing 13 (B).

[0100] $d=(x2+y2)\ 1/2$ $a=\arctan(y/x)$ Time $a=\arctan(y/x)+\pi$ [ 0 / x>=] At the time of x< 0, further, as shown in drawing 14 (A), in order to search for the changing agency image coordinate (xx, yy) corresponding to a coordinate (x y), the next operation is performed. First, it asks for an include angle A from die-length [ of the radii of the ball of a radius R ] d.

[0101] $A=(d/2\pi R)$ and $2\pi=d/Rdd=R\times\cos(A)$

$xx=dd\times\cos(A)$

$yy=dd\times\sin(A)$

Next, the next operation is performed in order to change a changing agency image coordinate (xx, yy) into the coordinate (ii, jj) which sets the upper left edge of an image to (0, 0), as shown in drawing 14 (B).

[0102]

As shown in $ii=(xx+320)-0.5jj=(yy+240)-0.5$ and drawing 14 (C) The value VV (ii_i, jj_i) of the integer part (ii_i, jj_i) and fraction part (ii_e, jj_e) of a coordinate (ii, jj) to four dots, It asks for the rate of VV (ii_i +1, jj_i), VV (ii_i, jj_i +1), and VV (ii_i +1, jj_i +1), and the coordinate V of the dot after conversion (i, j) is searched for.

[0103] $V(i,j)=VV(ii\_i,jj\_i)\times(1-ii\_e)\times(1-jj\_e)+VV(ii\_i+1,jj\_i)\times ii\_e\times(1-jj\_e)+VV(ii\_i,jj\_i+1)\times(1-ii\_e)\times jj\_e+VV(ii\_i+1,jj\_i+1)\times ii\_e\times jj\_e$ -- by this, an image without distortion as shown in drawing 12 (B) is obtained.

[0104] Criteria marker position detection processing is performed in the following S13. As this criteria marker position detection processing, profile extract processing of S13a and pattern-matching processing of S13b are performed. As shown in drawing 15 , the criteria marker 114 is printed by the four corners of the rear face of the sheet 80 for the play fields. The criteria marker 114 can extract the profile of black dot 114b by arranging black dot 114b in white round-head 114a. Therefore, in this example, the criteria marker's 114 coordinate location is detected from the image which picturized the criteria marker 114 with image sensors 56. And the range with the four corners in which the criteria marker 114 was formed is started, the criteria marker pattern data beforehand remembered to be the location of the criteria marker's 114 black dot 114b by the database can be collated, it can shift, an amount can be calculated, and a gap of the image picturized with image sensors 56 according to this amount of gaps can be amended.

[0105] In addition, in profile extract processing of the criteria marker 114, the criteria marker's 114 image data is divided into nine, and the criteria marker's 114 profile is extracted using the Sobel filter.

[0106] In the following S14, the location and include angle of the player card 20 laid in the player card arrangement panel 24 are detected. By detection processing, the number of sheets of the player card 20 laid in the player card arrangement panel 24, the position coordinate of each player card 20, and an include angle are detected whenever [ this card position angle ]. If it detects then, since time amount will be taken, the pixel of the image first picturized with image sensors 56 is made coarse to about 1/2, and it asks for a near temporary location and a near include angle, and asks for still more detailed location and include angle in the next phase.

[0107] Therefore, by detection processing, detection processing (S16) is performed [ whenever / card position angle / whenever / temporary position angle / of the 1st step ] whenever [ detection processing (S15) and position angle / of the 2nd step ]. In the detection processing 15, contraction processing, profile extract processing, pattern-matching processing, and infanticide processing are performed whenever [ temporary position angle ].

[0108] In profile extract processing of S15a, contraction processing which reduces the resolution of an image in all directions [ each / 1/2 ], and makes resolution coarse is performed. Then, the profile of the card data 112 memorized at the rear face of the player card 20 is extracted using the Sobel filter by S15b. In this profile extract processing, as shown in drawing 16 , trichotomy of four sides of the profile of the card data 112 every is done, and it considers as R0 and R1 of D0 and D1 of L0 and L1 of upper U0 and upper U1, U2 field, and left-hand side, L2 field, and the bottom, D2 field, and right-hand side, and nine-piece division of R2 field. And since the methods of three of the left-hand side except a top, right-hand side, and the bottom are black frames 112a-112c (R> drawing 10 0 reference) as mentioned above, the profile of the card data 112 can detect the include angle of the player card 20 by measuring the brightness of each side. If it puts in another way, it can ask for the include angle of the player card 20 by distinguishing in which part of the field where one sides [ nine ] in which black frames 112a-112c are not formed were divided by control processing of drawing 17 mentioned later it is located.

[0109] And pattern-matching processing is performed in S15c. That is, it collates with the pattern data of each rotation location registered beforehand, and mark are given, it shifts 1 dot at a time, all images are searched, and the coordinate and include angle of a value more than a certain level are stored. In the following S15d, since it only distinguished with the value more than a certain level, infanticide processing which the unnecessary coordinate is also included, therefore deletes an excessive pixel is performed.

[0110] In the detection processing S16, logging processing, profile extract processing, and pattern-matching processing are performed whenever [ following position angle ]. In S16a, logging processing which starts near the position coordinate for which it asked coarsely by detection processing whenever [ temporary position angle ] from the image before reducing is performed. In the following S16b, profile extract processing in which the profile of the card data 112 memorized at the rear face of the player card 20 using the Sobel filter extracts the cut-down image is performed. In the following S16c, pattern-matching processing which collates with the pattern data of the rotation location beforehand registered like pattern-matching processing of detection whenever [ temporary position angle ], and asks for the high location and high include angle of precision is performed.

[0111] In the following S17, the image of brightness is cut down from the position coordinate searched for as mentioned above and an include angle, and as shown in drawing 18 , a right-and-left brightness difference reads monochrome =0 and monochrome =1 from the brightness difference of right and left of a certain range, for example. And a 24-bit ID code (a player's identification code printed by the card face) is detected from monochrome pattern of the card data 112 memorized at the rear face of the player card 20.

[0112] Here, card include-angle detection processing of drawing 17 is explained. In addition, in the flow chart of drawing 17 , A is the brightness threshold of 112f of white parts, and B is the brightness threshold of Kurobe part 112e (A<B). In S21 of drawing 17 , since the card data 112 cannot be read when R0 and R1 of D0 and D1 of L0 and L1 of U0 and U1 of a certain started range top, U2 field, and left-hand side, L2 field, and the bottom, D2 field, and right-hand side, and the brightness of R2 field are beyond the brightness thresholds A, it progresses to S22 and it is judged that detection is impossible.

[0113] Moreover, U0 and U1 of a certain range top started in S21, U2 field, When R0 and R1 of D0 and D1 of L0 and L1 of left-hand side, L2 field, and the bottom, D2 field, and right-hand side, and the brightness of R2 field are not beyond the brightness thresholds A It progresses to S23 and L0 and L1 of left-hand side, and the brightness of only L2 field confirm whether the brightness of the field of beyond the brightness threshold A and others is beyond the brightness threshold B. In S23, when L0 and L1 of left-hand side, and the brightness of only L2 field is [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S24 and is judged as that by which the player card 20 is laid in the player card arrangement panel 24 at the include angle to which L0 and L1 of left-hand side, and L2 field are located upwards.

[0114] Moreover, in S23, when L0 and L1 of left-hand side, and the brightness of only L2 field is not [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S25 and lower U0 and lower U1, and the brightness of only U2 field confirm whether the brightness of the field of beyond the brightness threshold A and others is beyond the brightness threshold B. In S25, when lower U0 and lower U1, and the brightness of only U2 field is [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S26 and is judged as that by which the player card 20 is laid in the player card arrangement panel 24 at the include angle to which lower U0 and lower U1, and U2 field are located upwards.

[0115] Moreover, in S25, when lower U0 and lower U1, and the brightness of only U2 field is not [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S27 and R0 and R1 of right-hand side, and the brightness of only R2 field confirm whether the brightness of the field of beyond the brightness threshold A and others is beyond the brightness threshold B. In S27, when R0 and R1 of right-hand side, and the brightness of only R2 field is [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S28 and is judged as that by which the player card 20 is laid in the player card arrangement panel 24 at the include angle to which R0 and R1 of right-hand side, and R2 field are located upwards.

[0116] Moreover, in S27, when R0 and R1 of right-hand side, and the brightness of only R2 field is not [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S29 and upper U0 and upper U1, and the brightness of only U2 field confirm whether the brightness of the field of beyond the brightness threshold A and others is beyond the brightness threshold B. In S27, when upper U0 and upper U1, and the brightness of only U2 field is [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S30 and is judged as that by which the player card 20 is laid in the player card arrangement panel 24 at the include angle to which upper U0 and upper U1, and U2 field are located upwards.

[0117] Moreover, in S29, since the card data 112 cannot be read when upper U0 and upper U1, and the brightness of only U2 field is not [ the brightness of the field of beyond the brightness threshold A and others ] beyond the brightness thresholds B, it progresses to S22 and it is judged that detection is impossible. Thus, the include angle of the player card 20 laid in the player card arrangement panel 24 is detectable.

[0118] In addition, as for the pattern of the card data 112, it is needless to say that you may not be monochrome pattern of the above squares. As a modification of the card data 112, as shown in drawing 19 , what printed a part for ring-like Kurobe 118 in the white part 116 circular at the rear face of the player card 20 may be used.

[0119] In this case, if there are not 1 and black projected part 118a when the existence of black projected part 118a which projects on the periphery for Kurobe 118 is detected and there is this black projected part 118a, 10-bit identification code will be obtained as 0. Moreover, since it projects on ring-like the periphery for Kurobe 118 at a radial, black projected part 118a is detected regardless of the include angle of the player card 20. Moreover, the ink of the color of the black which reflects invisible light so that existence of the player card 20 can be detected, or others may color the hatching part 120 surrounding the white part 116.

[0120] Drawing 20 is drawing showing the modification 1 of the player card 20. As shown in drawing 20 , the card point 122 which becomes the rear face of the player card 20 from a black dot besides the above-mentioned

card data 112 is printed by four corners. When these four card points 122 and the card data 112 are detected, it becomes possible to judge it as that by which the whole rear face of the player card 12 is picturized by image sensors 56. Therefore, it can judge whether two player cards 20 have lapped.
[0121] For example, as shown in drawing 21 (A), when a part of player card 20B laps on player card 20A and it has been arranged, the two card points 122 of player card 20B are detected, but since the card data 112 of player card 20B are also detected, two player cards 20A and 20B are judged to be what does not overlap.
[0122] Moreover, as shown in drawing 21 (B), when it has been lapped and arranged with the sense to which player card 20B crosses on player card 20A, the four card points 122 of player card 20B are detected, but since the card data 112 of player card 20B are not detected, two player cards 20A and 20B are judged to be overlapping things. In this case, only the player card 20A arranged downward can be recognized.
[0123] Moreover, since the four card points 122 and the card data 112 of player card 20B are not detected when player card 20B almost laps in the same direction and it has been arranged on player card 20A as shown in drawing 21 (C), two player cards 20A and 20B are judged to be overlapping things. In this case, only the player card 20A arranged downward can be recognized.
[0124] Here, how to play with the card game equipment 10 constituted as mentioned above and control processing are explained. With card game equipment 10, if a player 22 injects a game tariff (coin) into a coin slot (not shown), inserts IC card 18 in the IC card read/write 28 and operates start ** (not shown) to ON, team data and a player's practice data which were memorized by IC card 18 will be read, and control processing will start.
[0125] As shown in drawing 22 , IC card 18 has player data storage section 18a the personal data in which a player's capacity (skill) registered with the card data of the player card 20 is shown are remembered to be. When Hidetoshi Nakata's player card 20 is laid in the midfielder field 102 of the player card arrangement panel 24, while it is possible to register about 20-50 players' data into IC card 18 of one sheet, for example, memorizing the player name concerned as a registration player and memorizing registration player data 18a after practice termination and game termination, a practice result and a game result are memorized as growth data.
[0126] A registration player's basic value is memorized as initial value by IC card 18 before being used. And the growth value acquired from a practice result and a game result is added to each registration player's basic value. As an item which evaluates the capacity for every player, there are a chute, pass, a dribble, a tackle, a pass cut, positioning, tactical understanding, stamina, speed, muscular power, and special capacity (a killer pass, pinpoint pass, etc.), for example. And a basic value and a growth value are memorized as personal data for every item.
[0127] In addition, the special capacity for every player is not set to the usual player card 20, but can make only a rare card with little issue number of sheets reflect in a game as a player's personal data.
[0128] Moreover, when OBA [ the number of IC card 18 which can be registered ], the personal data of the old player card 20 are eliminated. A player 22 can choose the player name eliminated when OBA [ the number of IC card 18 which can be registered ].
[0129] Drawing 23 is the Maine flow chart which shows the game advance procedure of card game equipment 10. As shown in drawing 23 , as contents of a game of card game equipment 10, it roughly divides and sequential execution of member election mode (procedure 1), player training mode (procedure 2), game mode (procedure 3), and the instruction mode (procedure 4) is carried out.
[0130] In member election mode (procedure 1), a player 22 chooses 11 sheets from that of the owned player card 20 as a regular, and elects five player cards 20 of bracing. And a player 22 puts in order each 11 player cards 20 elected as the forward field 100 of the participation player card arrangement field 92 formed in the player card arrangement panel 24, the midfielder field 102, the defender field 104, and the goalkeeper field 105 (refer to drawing 7 ) as a regular, and puts in order each five player cards 20 elected as the sub player card arrangement field 94 as a player of bracing.
[0131] If each player card 20 is arranged in the participation player card arrangement field 92 and the sub player card arrangement field 94, it will progress to following player training Mode S 12. In addition, although the player card 20 of the player of bracing laid in the sub player card arrangement field 94 can be placed to five sheets, when the player 22 has only a regular's part, it is not necessary to put it on the sub player card arrangement field 94.

[0132] In player training mode (procedure 2), practice before playing a game can be performed and each player and a team can be grown up. Practice will be automatically ended, if the predetermined time set up beforehand passes.
[0133] In the following game mode (procedure 3), a match is played against the team of other players. In addition, when nobody requires other players, a match will be played against the virtual team of computer control.
[0134] If a game is started, a player 22 considers tactics as a supervisor, looking at the advance situation of the game displayed on the monitor 26, will move each player card 20 laid on the player card arrangement panel 24, or will carry out a player shift. A game will be automatically ended, if the predetermined time set up beforehand passes.
[0135] In the following instruction mode (procedure 4), after carrying out game termination, each player is advised and player capacity (skill) is heightened. And the new player card 20 is published from the card issue section 30 at the end. Thus, since one player card 20 increases in number at a time whenever a game is completed, when it is a next game, it becomes easy to do actuation of player election or a player shift.
[0136] On the other hand, as flow of 1 play which a player 22 performs, it becomes operating procedure as shown in drawing 24 . As shown in drawing 24 , a player 22 performs insertion actuation of IC card 18 in a procedure 11 first. Then, a player 22 performs coin closing operation for a game tariff. this -- a player -- 22 -- being concerned -- a card -- a game -- an item -- ****** -- being required -- an IC card -- 18 -- owning -- **** -- things -- checking -- since -- a game -- a tariff -- payment -- carrying out -- making -- an IC card -- 18 -- owning -- **** -- a case -- refund -- improper -- depending -- a trouble -- generating -- preventing .
[0137] In the following procedure 12, the player card 20 on hand is arranged in the player card arrangement panel 24, a player is elected, and the preparations before a game of each elected player are made. A set play, a formation, a chute, etc. are made to practice as front [ this game ] preparation to each player of the player card 20 stationed at the player card arrangement panel 24 (training mode).
[0138] In the following procedure 13, a game is played with the team which other players set. As for a game, a halftime meeting and the second half of a game (45 minutes) are performed in the first half (45 minutes) of a game. During a game, a player 22 moves the player card 20 according to a situation with a waging-war partner, a formation can be changed, or can replace the player card 20 and can change tactics. Moreover, in a halftime meeting, the direct directions of the check [ Praising or cutting **** ] of tactics etc. are carried out to modification of a formation and a player and each player.
[0139] In the following procedure 14, the meeting after game termination is held, communication with a player, such as explaining the point of a game examining oneself, is aimed at, and a player's growth value is raised (instruction mode).
[0140] In the following procedure 15, a game result is released as a sports highlight show. thus, the capacity (skill) of which player is made to play by which position by the ability of a player 22 participating in a game as a supervisor of a soccer team, and a player -- how -- it can enjoy whether it is higher **.
[0141] Here, drawing 25 thru/or drawing 29 are combined, referred to and explained about the control processing which CPU62 of a terminal unit 16 performs. As shown in drawing 25 , CPU62 checks that IC card 18 as a crab card has been inserted in the IC card read/write 28 by S41. If it is checked that the player 22 owns IC card 18, it will progress to S42 and it will be confirmed whether a coin injection and start ** were operated by ON. Therefore, also when imitation cards other than what the player which does not own IC card 18 could not participate in a game, or was published by normal are inserted, it cannot participate in a game. Moreover, since a coin injection is performed after owning IC card 18 checks, it prevents that the player which does not own IC card 18 carries out a coin injection, and the refund trouble of a tariff is canceled.
[0142] In the following S43, the data which were able to be read by the IC card read/write 28 are checked. And when there are no crab data in the data read in IC card 18, it progresses to S45, a crab name input screen is displayed on a monitor 26, and a crab name is made to input into a player 22 in S44. Then, a uniform selection screen is displayed on a monitor 26, and a player's uniform is made to choose it as a player 22 in S46. A team flag selection screen is displayed on a monitor 26, and a team flag is made to choose it as a player 22 in the following S47.
[0143] In S44, after processing of the above S45-S47 is completed when crab data are in the data read in IC card 18 or, it progresses to S48 and a crab data validation screen is displayed on a monitor 26. Then, in S49, the

waging-war partner team display screen is displayed on a monitor 26.

[0144] A player card arrangement directions screen is displayed on a monitor 26 in the following S50. Moreover, the message "arrange a card on a board" is displayed on a player card arrangement directions screen. Moreover, count initiation of the arrangement time amount (for 60 seconds) for arranging the player card 20 is carried out.

[0145] In S51, a system plot plan (for example, block diagram as shown in drawing 1 ) is displayed on a monitor 26 for a beginner.

[0146] In the following S52, if 11 player cards 20 which serve as a starting lineup at least are arranged in on the player card arrangement panel 24 as a player 22 shows drawing 6 , arrangement of the player card 20 will be checked by S53. And if the alter operation of arrangement termination occurs by S54, it will progress to S55, the identification code of 11 player cards 20 laid on the player card arrangement panel 24 will be read, and it will record as starting lineup data.

[0147] In S56, the practice screen before a game is displayed on a monitor 26. As a front [ game ] practice screen, the training menu screen 130 as shown in drawing 30 (A), each practice screen 132 as shown in drawing 30 (B), and the team synthesis force evaluation screen 134 that added each point according to item from the practice result as shown in drawing 30 (C) are displayed on a monitor 26 one by one, for example.

[0148] The meeting screen before a game is displayed on a monitor 26 in the following S57. Then, in S58, it will be in the state waiting for preparation of other players.

[0149] A kickoff announcement screen is displayed on a monitor 26 in S59 shown in drawing 26 . Then, it progresses to S60 and the display of player entrance and a starting lineup player name etc. displays a production screen on a monitor 26 at the time of a kickoff.

[0150] Screen 136 is displayed on a monitor 26 in S61 in the game first half of the player team concerned and other player teams. The player 22 immediately after a kickoff sees the motion of each player displayed on a monitor 26 while 11 player cards 20 which become the beginning with a starting lineup had been made to lay on the player card arrangement panel 24 as shown in drawing 31 .

[0151] For example, as a player 22 is shown in drawing 32 at the time of 20 minutes, in order to acquire an opening the scoring point, after moving the location of the player card 20 made to lay on the player card arrangement panel 24 and changing into an attack mold formation, input button 34a is operated to ON, and a best play is directed to all players in the first half of a game.

[0152] That is, a player 22 is changed into the attack mold formation to which arrangement of a midfielder's player card 20 is made the forward field 100 of the player card arrangement panel 24, and a forward's player and a midfielder's player can participate in an attack. This attack mold formation screen 137 is displayed on a monitor 26.

[0153] After the first half of a game is completed, it progresses to the following S62 and a halftime meeting screen is displayed on a monitor 26. In this halftime meeting, it checks that the player understands the tactics which could tell the player the directions from a supervisor and directed them. Moreover, at the time of halftime, as shown in drawing 33 , a player 22 replaces the player card 20 so that the player of bracing may be made to relieve of the player to whom a player out of condition or stamina went out in the first half. That is, a player 22 replaces the player card 20 which was tiring in the participation player card arrangement field 92, and the player card 20 arranged to the sub player card arrangement field 94. The player shift screen 138 is displayed on a monitor 26.

[0154] And by S63, the second half of a game is displayed on a monitor 26 after halftime meeting termination. As a player 22 is shown in drawing 34 at the time of 35 minutes, in order to keep an opening the scoring point, it changes into the formation of the defense serious consideration for hardening defense of residual time and having escaped in the second half of a game. That is, a player 22 hardens defense so that almost all the player card 20 may be lowered to the defender field 104 and the gall of the members of ** may be protected. The defense serious consideration formation screen 139 is displayed on a monitor 26.

[0155] In the following S64, the score of both the teams in a game termination time confirms whether to be a tie or not. When the score of both teams is a tie, it progresses to S65 and the game screen of an extra-inning game is displayed on a monitor 26. At the time of this extra-inning game, in order to forestall a score, it changes into the attack mold formation to which arrangement of a midfielder's player card 20 is made the forward field 100 of the player card arrangement panel 24, and a forward's player and a midfielder's player can participate in an attack.

[0156] After an extra-inning game is completed, it progresses to S66 and the score of both teams confirms whether to be a tie or not. When the score of both teams is a tie, it progresses to S67, five skillful ** of a chute are elected from both teams, and the penalty shootout screen which shoots one player of both teams at a time by 1 to 1 with a goalkeeper by turns is displayed on a monitor 26.

[0157] In S64, after the penalty shootout of S67 is completed when there is a score difference of both teams or, it progresses to S68 and a game result announcement screen is displayed on a monitor 26. On this game result announcement screen, as shown in drawing 35 (A), the game result display screen 140 of time amount with gall and the player name which made a goal is displayed on a monitor 26, for example. Then, the meeting screen after a game is displayed on a monitor 26 by S69. In this meeting screen, as shown in drawing 35 (B), a menu screen 142 is displayed on a monitor 26 in the scene which speaks to a player from a supervisor, for example. A player 22 operates operation select buttons 32a-32c, and chooses the message to each player from a menu screen 142.

[0158] In S70, the parameter of each player and a team is calculated from a game result. And the calculated parameter is stored in IC card 18 in S71. In the following S72, it checks whether a game is made to continue. When a player 22 directs game termination, it progresses to S73, the new player card 20 is published from the card issue section 30, and IC card 18 is made to discharge from the IC card read/write 28. Moreover, in S72, when a player 22 directs game continuation, it returns to S41 of drawing 25 .

[0159] Here, IC card check processing of the above S43 is explained with reference to drawing 27 . As shown in drawing 27 , it is confirmed whether IC card 18 inserted in the IC card read/write 28 by S80 is proper. In S80, when IC card 18 is an IC card for card game equipments of this invention, it judges that it is proper and this IC card check processing is ended. However, when IC card 18 inserted in the IC card read/write 28 by S80 is unsuitable forward, it progresses to S81. Reinsertion directions are announced in S81. And in S82, IC card 18 judged to be unsuitable forward from the IC card read/write 28 is discharged.

[0160] In the following S83, it waits to input the signal which detected that new IC card 18 was inserted in the IC card read/write 28. And in S84, if it is detected that IC card 18 was inserted in the IC card read/write 28, new IC card 18 inserted in the above S80 at return and the IC card read/write 28 will confirm whether to be a proper thing. And when new IC card 18 is proper, this IC card check processing is ended.

[0161] Here, player card placement-checking processing of the above S53 is explained with reference to drawing 28 . As shown in drawing 28 , in S90, the arrangement data of the player card 20 laid in the player card arrangement panel 24 are read. It checks for no overlapping player card 20 in the following S91. In S91, when there is an overlapping player card 20, it progresses to S92, relocation directions of the player card 20 are announced, and it reports to a player 22. And in S93, it is checked that the player card 20 has been rearranged.

[0162] Moreover, in the above S91, when there is no overlapping player card 20, it progresses to S94 and it is confirmed whether the same player card 20 is laid. When the same player card 20 is laid by S91, relocation directions of the player card 20 are announced by the above S92, and it reports to a player 22. And in S93, it is checked that the player card 20 has been rearranged.

[0163] Moreover, in the above S94, when the same player card 20 is not laid, it progresses to S95 and it is confirmed whether the number of sheets of the player card 20 laid in the player card arrangement panel 24 is proper. Since the number of cards is proper when 11 player cards 20 are laid in the participation player card arrangement field 92 of the player card arrangement panel 24 and five or less player cards 20 are laid in the sub player card arrangement field 94 by S95, this player card placement-checking processing is ended. However, in S95, when the number of cards is unsuitable forward, relocation directions of the player card 20 are announced by the above S92, and it reports to a player 22. And in S93, it is checked that the player card 20 has been rearranged.

[0164] Here, the player card check processing under game is explained with reference to drawing 29 . In addition, interruption processing of the player card check processing is carried out for every predetermined time during a game. As shown in drawing 29 , in S100, the arrangement data of the player card 20 laid in the player card arrangement panel 24 are read. It checks for no overlapping player card 20 in the following S101. In S101, when there is an overlapping player card 20, it progresses to S102, it indicates that arrangement of the player card 20 is unsuitable, and reports to a player 22.

[0165] Moreover, in the above S101, when there is no overlapping player card 20, it progresses to S103 and it is confirmed whether the same player card 20 is laid. When the same player card 20 is laid by S103, it indicates that arrangement of the player card 20 is unsuitable by the above S102, and reports to a player 22.

[0166] Moreover, in the above S103, when the same player card 20 is not laid, it progresses to S104 and it is confirmed whether the number of sheets of the player card 20 laid in the player card arrangement panel 24 is proper. Since the number of cards is proper when 11 player cards 20 are laid in the participation player card arrangement field 92 of the player card arrangement panel 24 and five or less player cards 20 are laid in the sub player card arrangement field 94 by S104, it progresses to S105 and the arrangement data of the player card 20 read this time confirm whether it is in agreement with the starting lineup data at the time of game initiation. Since the player card 20 different from a starting lineup is laid when the arrangement data of the player card 20 read by S105 this time are not in agreement with the starting lineup data at the time of game initiation, it progresses to the above S102, it indicates that arrangement of the player card 20 is unsuitable, and reports to a player 22.

[0167] Moreover, when the arrangement data of the player card 20 read by S105 this time are in agreement with the starting lineup data at the time of game initiation, it progresses to S106 and it is confirmed whether the player card 20 of bracing is laid in the sub player card arrangement field 94. When there is a player card 20 of bracing by S106, it progresses to S107 and displays that a player shift is possible on a monitor 26.

[0168] In the following S108, player position data are corrected from arrangement of each player card 20 so that current arrangement data can be adapted for a game. And in S109, the arrangement data of the player card 20 read this time are recorded as new arrangement data.

[0169] Thus, if a player 22 moves the player card 20 and a formation is changed, the contents of a game according to the formation changed immediately will be displayed on a monitor 26. Moreover, when the player card 20 of bracing is laid in the sub player card arrangement field 94, the player card 20 can be replaced and a player shift can be carried out. And if the personal data of the changed player card 20 are recorded as new arrangement data, the image of the player who took the place will be displayed on a monitor 26.

[0170] Drawing 36 is drawing showing an example of a game schedule. As shown in drawing 36 , the game schedule is beforehand registered into the memory 44 of the Maine control section 14, for example, ten kinds of cycles are registered by making ten games into 1 cycle. And ten kinds of cycles are repeated in the Maine control section 14. For example, it is pitched against each other in order for seven player each teams and round robin which were set as other terminal units 16, and the 1st cycle (world crab championship) 150 will cover the expenses of ranking (evaluation point), if a game is won. In addition, when there is a seat in which a player is not, a match is played against the computer team registered into CPU62 of a terminal unit 16.

[0171] Termination of a game with other 7 player teams holds three games of the 1-time game of a world crab championship, the semifinal game of a world crab championship, and the finals of a world crab championship. In addition, the team (in the four or more loss negative beam case [ For example, a game result with other 7 player teams ]) which cannot participate in a world crab championship will participate in the local convention of degradation.

[0172] Moreover, in the 2nd cycle (champion league) 152, it is pitched against each other by seven player each teams and tournament method which were set as other terminal units 16, and the 1st game of a champion league, the 2nd game of a champion league, and the 3rd game of a champion league are held by 4 teams of high orders. In addition, the 2nd cycle (champion league) 152 can participate the team which for example, international ranking left the results of the 50th less than place.

[0173] Ten kinds of such each cycle of a game is prepared, and the 1st cycle (world crab championship) 150 of the above and eight kinds of cycles other than the 2nd cycle (champion league) 152 are performed repeatedly.

[0174] Drawing 37 is a flow chart for explaining the subroutine of processing of the above S41. As shown in drawing 37 , in S111, the coin chute prepared in the coin slot (not shown) before game initiation is changed into a lock condition. In the following S112, while displaying an ADOBATAIZU screen on the monitor 26 of the terminal unit 16 formed in each satellite, the message "insert an IC card" is displayed on a monitor 26.

[0175] In the following S113, it is confirmed whether IC card (memory card) 18 was inserted in the IC card read/write 28. In S113, when IC card 18 is not inserted in the IC card read/write 28, while displaying an ADOBATAIZU screen on the above S112 at the monitor 26 of return and a terminal unit 16, the message "insert an IC card" is displayed on a monitor 26.

[0176] Moreover, in the above S113, when IC card 18 is inserted in the IC card read/write 28, it progresses to

S114, the lock of the coin chute prepared in the coin slot (not shown) is canceled, and it opens possible [ an injection ] (coin receptionist means). Then, it progresses to S115 and the message "put in coin" is displayed on a monitor 26. After this, it shifts to S42 mentioned above.

[0177] Thus, it checks owning the crab card with which the item which needs a player 22 for the card game concerned, i.e., the card data of each player card 20, was memorized as operating procedure before game initiation. And if a player 22 inserts IC card 18 in the IC card read/write 28, when inserted IC card 18 will be published by normal, in order to permit an injection of coin, it becomes possible to prevent that the player 22 which does not own IC card 18 throws in coin, and to cancel the return trouble of coin.

[0178] Here, the modification of this invention is explained. Drawing 38 thru/or drawing 41 are the flow charts for explaining the modification of the control processing which CPU62 of a terminal unit 16 performs.

[0179] As shown in drawing 38 , CPU62 of a terminal unit 16 displays the standby screen to which insertion of IC card 18 is urged to a player 22 by S120, then an ADOBATAIZU screen on a monitor 26. As this ADOBATAIZU screen, there are a game explanation screen for explaining the title screen of the card game concerned, and the operating instructions of a game and the Ruhr, a demonstration screen in a game, etc.

[0180] A player 22 inserts already purchased IC card 18 in the IC card read/write 28, when participating in the card game concerned. Moreover, in the start, a player 22 purchases a start set beforehand. IC card 18 and 11 player cards 20 are contained in this start set.

[0181] In the following S121, it is confirmed whether IC card 18 was inserted in the IC card read/write 28. In S121, if it is detected that IC card 18 was inserted in the IC card read/write 28, it will progress to the above S122, and new IC card 18 inserted in the IC card read/write 28 confirms whether to be a proper thing. The skill of the player corresponding to the class and card data of a card which the player concerned owns at least, and the past game result are memorized by IC card 18. Therefore, while data required for a game are obtained by reading the information memorized by IC card 18, it can check having rating for a player 22 participating in a game.

[0182] In S122, when IC card 18 inserted in the IC card read/write 28 is an unsuitable forward card, it progresses to S123 and a warning screen (unsuitable forward card display) is displayed on a monitor 26. Then, IC card 18 distinguished from the unsuitable forward card from the IC card read/write 28 by S124 is discharged. And the standby screen which urges insertion of return and IC card 18 to S120 again, then an ADOBATAIZU screen are displayed on a monitor 26.

[0183] Moreover, in the above S122, when IC card 18 is published by normal, it progresses to S125 and it is confirmed whether crab data are memorized by IC card 18. When crab data are memorized by IC card 18, it progresses to S126 and the crab data read from IC card 18 are displayed on a monitor 26.

[0184] In the following S127, reception of an injection (payment of a game tariff) of coin is started. It progresses to S128 and it is confirmed whether there was any injection of coin. In S128, when there is no injection of coin, it progresses to S129 and it is confirmed whether the time limit set up beforehand passed. In S129, when the time limit has not passed, it returns to the above S128 and the existence of an injection of coin is checked again.

[0185] Moreover, in S129, when the time limit passes, in order to prevent delay of game initiation, return and IC card 18 are discharged to S124. And the standby screen which urges insertion of return and IC card 18 to S120 again, then an ADOBATAIZU screen are displayed on a monitor 26.

[0186] Moreover, in the above S128, when there is a coin injection, the payment amount of money in the coin thrown in by progressing to S130 confirms whether have reached the amount of money equivalent to the regulation charge. Since the injection amount of money runs short when the amount of money of the coin thrown in by S128 has not reached the convention amount of money, it is checked that it shifted to the above S129 and the additional coin injection has been performed in the time limit.

[0187] Moreover, when crab data are not memorized by IC card 18 by the above S125, it progresses to S131 and the guidance screen which explains the procedure of crab creation to a player 22 is displayed on a monitor 26. Then, it progresses to S132, the input screen G01 of a crab name is displayed on a monitor 26, and a crab name is made to input. The uniform creation screen G02 which a player wears is displayed on a monitor 26, and directions of uniform creation (the uniform for homes, the uniform for away one, the uniform for keepers, and a team flag are created) are made to input in the following S133.

[0188] The team sponsor selection screen (the sponsor name of 50 companies is displayed) G03 is displayed on

a monitor 26, and ten companies are made to choose the Maine sponsor and a subsponsor in the following S134. Then, the production screen of the completion of crab establishment of the team concerned is displayed on a monitor 26 by S135.
[0189] Then, in S136 of drawing 39 , the waiting screen for an entry of other players is displayed on a monitor 26. In the following S137, the combination display screen of a game with other players which entered is displayed on a monitor 26.
[0190] Next, display processing of a clubhouse is performed [ all / seat ] (terminal units 16a-16h). A clubhouse screen (card arrangement directions) is displayed on a monitor 26 in S138. While directing to arrange the player card 20 to a player 22, the arrangement of the starting lineup of a game performed to last time from the game data of the past memorized by IC card 18 is displayed on a monitor 26, and the jersey number of each stationed player is set up automatically, and it is made to display on a monitor 26 on this clubhouse screen.
[0191] In the following S139, it is checked that the player card 20 has been laid in the player card arrangement panel 24. In addition, on the player card arrangement panel 24, it is possible to lay 11 starting lineups and three submembers. And in S140, the card data of each player card 20 laid in the player card arrangement panel 24 are read, and arrangement of each player card 20 is checked.
[0192] In the following S141, when arrangement of each player card 20 laid in the player card arrangement panel 24 is proper, it is confirmed whether progressed to S142, read the card data of each player card 20 laid in the player card arrangement panel 24 in the time limit decided beforehand, and the starting lineup was determined.
[0193] And when a starting lineup is determined in the time limit by S142 by each player card 20 laid in the player card arrangement panel 24, a starting lineup is registered into the memory 64 of a terminal unit 16 by S143.
[0194] Moreover, in S141, when arrangement of each player card 20 laid in the player card arrangement panel 24 is unsuitable forward, it progresses to S144 and it is confirmed whether the time limit (for example, 60 seconds) passed. When the time limit remains by S144, processing after return and S139 is performed to the above S139.
[0195] Moreover, in S144, when the time limit (for example, 60 seconds) passes, it progresses to S145 and the arrangement data of each player card 20 are compulsorily corrected based on the past game result. Then, in S146, the arrangement data of each corrected player card 20 determine a starting lineup automatically, and it displays on a monitor 26. Then, it results in S143 and a starting lineup is registered into the memory 64 of a terminal unit 16.
[0196] In the following S147, while displaying a clubhouse screen (starting lineup decision) on a monitor 26, a starting lineup is displayed on a monitor 26.
[0197] Then, while progressing to S148 of drawing 40 and displaying a clubhouse screen (team training place side) on a monitor 26, practice schedule selection is displayed on a monitor 26.
[0198] In S149, if practice schedule decision is specified in the time limit, while progressing to S150 and displaying a clubhouse screen (practice result) on a monitor 26, the team capacity change screen by practice is displayed on a monitor 26.
[0199] moreover, in S149, while shifting to S150 and displaying a clubhouse screen (practice result) on a monitor 26 after displaying a practice schedule automatic decision screen by S151 when a practice schedule decision is not made to a limit within a time, change of the team capacity by practice is displayed on a monitor 26.
[0200] Then, it changes to all seat coincidence on a stadium screen, and data processing of a kickoff is performed. In S153, the production screens (player entrance etc.) of a kickoff are displayed on a monitor 26.
[0201] Then, in S154, data processing of a game with a waging-war team is performed. In the following S154, game termination production screens (joy of the player of a team who won, display of a game result, etc.) are displayed on a monitor 26.
[0202] In S156 shown in following drawing 41 , the migration production which the player after game termination moves to a clubhouse is displayed on a monitor 26. Then, while progressing to S157 and displaying clubhouse screens (evaluation/reflection of a game) on a monitor 26, a management menu selection screen is displayed on a monitor 26.
[0203] In S158, it is confirmed whether alternative was determined out of the management menu selection

screen in the time limit. When alternative is determined out of a management menu selection screen in the time limit by S158, while progressing to S159 and displaying a clubhouse screen (management result) on a monitor 26, the team capacity change screen by a game and the meeting is displayed on a monitor 26.
[0204] Moreover, in S158, it progresses to S159, after progressing to S160 and determining alternative compulsorily out of a management menu selection screen, when not determining alternative out of a management menu selection screen in the time limit.
[0205] In the following S161, the data of this game result are saved at IC card 18. Then, it progresses to S162 and a continuing screen (game continuation check screen) is displayed on a monitor 26. And in S163, it confirms whether continue a game or not. In S163, when a player 22 does not choose continuing (game continuation) within the time limit (for example, 10 seconds), it progresses to S164, IC card 18 is discharged, and it becomes game termination.
[0206] Moreover, in the above S163, when a player 22 chooses continuing (game continuation) within between limits (for example, 10 seconds), it returns to S136 of drawing 39 .
[0207] Drawing 42 is a flow chart for explaining the subroutine of the player card placement-checking processing performed by S140. In drawing 42 , the card data of each player card 20 laid in the player card arrangement panel 24 are read by S170. the card data which cannot read the card data of each player card 20 laid in the player card arrangement panel 24 in the following S171 -- it is confirmed whether there is an unknown player card 20. S171 -- setting -- card data -- when there is an unknown player card 20, it progresses to S172 and a card exchange directions announcement is performed (notice means of card exchange).
[0208] S171 [ moreover, ] -- setting -- card data -- when there is no unknown player card 20, it progresses to S173 and it is confirmed whether there is any card with which each player card 20 laid in the player card arrangement panel 24 was repeated. In S173, when there is an overlapping card, it progresses to S174 and a relocation directions announcement is performed.
[0209] Moreover, in S173, when there is no overlapping card, it progresses to S175 and it is confirmed whether there is any same card. In S175, when there is a card with which each player card 20 laid in the player card arrangement panel 24 was repeated, it progresses to S176 and a relocation directions announcement is performed.
[0210] moreover, the number of sheets of each player card 20 which progressed to S177 and was laid in the player card arrangement panel 24 in S175 when there was no same card -- being proper (11 sheets when it is a soccer game) -- it confirms whether be or not. In S177, since card number of sheets is unsuitable forward when there is not 11 number of sheets of each player card 20 laid in the player card arrangement panel 24, it progresses to S178 and a relocation directions announcement is performed.
[0211] Thus, in S170-S178, after reading the card data of each player card 20 laid in the player card arrangement panel 24, it is checking that each player card 20 is arranged in the proper condition, and when each player card 20 is proper, it is judged that it is in the condition in which game initiation is possible.
[0212] Drawing 43 is a flow chart for explaining the subroutine of the arrangement data correction processing performed by S145. In drawing 43 , by S211, when the card data of the player card 20 laid in the player card arrangement panel 24 according to secular change of the player card 20 etc. cannot be read, the coordinate location of the player card 20 concerned which cannot be read is registered as a player unknown card (positional information reading means).
[0213] In the following S212, card arrangement of the last game is read from the game data of the past memorized by IC card 18. Then, in S213, card arrangement of the last game and arrangement of this player card 20 are collated.
[0214] The card data which guessed the card data of the player card 20 which cannot be read in the card arrangement last by the following S214 this time, and were guessed instead of the unknown card concerned are registered into memory 64.
[0215] And it progresses to S215 and it is confirmed whether the player 22 owns the player card 20 of the card data presumed by the above S214. In S215, when the player 22 owns the player card 20 of the presumed card data, it permutes by the correction card data which had card data of the player card 20 which cannot progress to S216 and cannot be read presumed (correction card data generation means). After this, it shifts to S146 mentioned above.
[0216] Moreover, when a player 22 does not own the player card 20 of the card data by which presumption was

carried out [ above-mentioned ], the player near the player capacity of the card data presumed by progressing to S217 selects, and the card data of this selected player card register into memory 64 as alternative card data corresponding to the above-mentioned coordinate location (location where the player card which cannot be read has been arranged) (an alternative card data offer means).

[0217] In this way, even when card data cannot be read according to secular change of the player card 20 etc., it becomes possible to start a card game, using alternative card data instead, and the game delay depended improper [ reading of card data ] is canceled. Moreover, when the card data of the player card 20 cannot be read as mentioned above, the game delay depended improper [ reading of card data ] is canceled by reading the card data of the past corresponding to arrangement of the card for which the reading concerned is improper out of the card data memorized by IC card 18 as a storage means, and generating alternative card data.

[0218] Drawing 44 is a flow chart for explaining the subroutine of the control processing which displays the game performed by S154. In drawing 44 , the advance situation of the game to termination is displayed on a monitor 26 in the first half from the kickoff of the first half by S180. If the first half of a game is completed and it enters in halftime, while progressing to the following S181 and displaying a locker room screen, the data (the number of gall, gall time amount, a score player name, the number of chutes, the number of yellow cards, the number of red cards, foul player name, etc.) of the game result of the first half are displayed on a monitor 26. And the directions menu in the second half of each player is displayed, and the existence of selection support is checked.

[0219] In S182, when the directions in the second half of each player are not inputted, it shifts to S183, determines "to have no directions" automatically, and displays on a monitor 26. In the following S184, while displaying a locker room screen, change of the directions result to each player and the team condition by directions is displayed.

[0220] In S185, the advance situation of the game to termination is displayed on a monitor 26 in the second half from the kickoff of the second half. After the second half of a game is completed, in S186, the score of both teams confirms whether to be a tie or not. When it is a tie in S186, it progresses to S187 and the game screen of an extra-inning game is displayed on a monitor 26. Moreover, in S186, when there is a score difference of both teams as a result of an extra-inning game, it becomes game termination and shifts to S155.

[0221] Moreover, after an extra-inning game is completed, it progresses to S188 and the score of both teams confirms whether to be a tie or not. When it is a tie in S188, it progresses to S189 and the screen of PK (penalty kick) game is displayed on a monitor 26. Moreover, in S188, when there is a score difference of both teams as a result of a penalty shootout, it becomes game termination and shifts to S155.

[0222] Here, control processing of the Maine control section 14 which is interlocked with the control processing performed with each above-mentioned terminal unit 16, and controls the display of the large-sized panel display 12 is explained with reference to drawing 45 and drawing 46 .

[0223] As shown in drawing 45 , while processing the above S136 with ** each terminal unit 16 (the waiting screen for another player entry is displayed), at the Maine control section 14, the schedule (the next game display screen G11) of a game is displayed on the large-sized panel display 12 by S191.

[0224] ** While processing the above S138 with each terminal unit 16 (a clubhouse screen, card arrangement, a starting lineup's decision), in the Maine control section 14, display the next game combination display screen G12 on the large-sized panel display 12 by S192, and display the convention data screen of a league, and a ranking table and a tournament table screen G13 on the large-sized panel display 12 after that S193.

[0225] ** While each terminal unit 16 is performing processing (a clubhouse screen, team practice, practice schedule selection, practice scenery production, practice result display) of the above S148 and S150, and processing (the migration production to a stadium, player migration, ambient atmosphere of a stadium) of the above S152, display the introduction screens G14 of each team (each stadium waging-war card, team capacity, a starting lineup, anticipation formation, etc.) on the large-sized panel display 12 by S194 at the Maine control section 14.

[0226] ** While processing the above S153 with each terminal unit 16 (a kickoff production screen, player entrance), display the soccer relay broadcast program screens G15 (greeting of on-the-spot announcer etc.) on the large-sized panel display 12 by S195 at the Maine control section 14.

[0227] ** While processing the above S180 with each terminal unit 16 (a game screen, first half), as shown in drawing 46 , display the soccer relay broadcast program screen G16 (all game digest screens) on the large-sized

panel display 12 by S196 at the Maine control section 14.
[0228] ** While processing the above S181 and S184 with each terminal unit 16 (directions in a locker room screen and halftime), display the soccer relay broadcast program screens G17 (CM image, result table in the first half of a game, etc.) on the large-sized panel display 12 by S197 at the Maine control section 14.
[0229] ** While processing the above S185 with each terminal unit 16 (a game screen, second half), display the soccer relay broadcast program screen G16 (all game digest screens) on the large-sized panel display 12 by S198 at the Maine control section 14.
[0230] ** While each terminal unit 16 is performing processing (a game termination production screen, the migration production screen of a clubhouse, crab management, continuing screen) of the above-mentioned S155-157 and S162, display the soccer relay broadcast program screens G18 (the situation of a victory team and all game results, ranking table), and G19 (best eleven's announcement, program ending) on the large-sized panel display 12 by S199 at the Maine control section 14.
[0231] Thus, the large-sized panel display 12 indicates the game display screen G11, the game combination display screen G12, a convention data screen and a ranking table and a tournament table screen G13, the introduction screen G14, the soccer relay broadcast program screen G15, the soccer relay broadcast program screen G16, and the soccer relay broadcast program screens G17, G18, and G19 by sequential according to the flow of the game between each terminal unit 16. Therefore, while being able to prevent that the customer who is doing turn waiting other than a player by the display of the large-sized panel display 12 is bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness can be raised.
[0232] Here, the digest scene of each above-mentioned game is extracted, the display ranking of each extracted digest scene judges it, and the processing which arranges serially is explained.
[0233] As shown in drawing 47 (A), in each terminal unit 16, the digest scenes 1-Good 6 of each game A-D are extracted, and it memorizes in memory 64.
[0234] The memory 44 of the large-sized panel control section 36 is made to memorize the image data of the digest scene memorized by the memory 64 of each terminal unit 16 at the Maine control section 14 with the ranking (Good1, Good3, Dood5 ...) put in order serially, as shown in drawing 47 (B).
[0235] As shown in drawing 47 (C), the large-sized panel control section 36 expresses the digest scene memorized by memory 44 to the large-sized panel display 12 as the ranking (Good1, Good3, Dood5 ...) of time series.
[0236] In addition, as a digest scene, there are the assistant scene before ** chute, ** chute scene, ** gall scene (or a goalkeeper's chute cut scene), ** gall player's performance scene, an agitation scene of the spectator immediately after ** gall, etc., for example. And as priority of a digest scene, the priority of a gall scene is the highest and memory 64 memorizes each scene of ** at the time of making a goal - ** as one digest scene.
[0237] Moreover, as a high scene of priority, there are a corner kick scene, a penalty kick scene by the foul action in penalty area, a free kick scene in the outside of penalty area, a throw scene of gall **, etc. except a gall scene, and when there is no gall scene, memory 44 is made to memorize the high scene of other priority.
[0238] Moreover, discernment data are contained in the image data of each digest scene, the digest scene under each game can be easily distinguished in the Maine control section 14 and each terminal unit 16, and it is possible to extract a digest scene automatically.
[0239] Here, indicative-data generation processing of the large-sized panel display 12 which the Maine control section 14 performs is explained with reference to drawing 48. As shown in drawing 48, the Maine control section 14 reads the game data memorized by the memory 64 of each terminal unit 16 by S201. In the following S202, it checks whether a digest scene is in the game data read from the memory 64 of each terminal unit 16. In S202, when there are data of a digest scene, it progresses to S203 and the data of a digest scene read from each terminal unit 16 memory 64 are stored in the memory 44 of the large-sized panel control section 36.
[0240] In the following S204, each digest scene is put in order serially and it stores in the memory 44 of the large-sized panel control section 36 (refer to drawing 47 (B)). Then, it progresses to S205 and each digest scene is displayed on the large-sized panel display 12 with the ranking of time series.
[0241] Thus, when the digest scene of a game is displayed on the large-sized panel display 12 and the digest scene of a game does not exist, while being able to prevent that the customer who is doing turn waiting other than a player by choosing the past game scene and making it display on the large-sized panel display 12 is

bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness can be raised.

[0242] Moreover, in the above S202, when there are no data of a digest scene in the memory 64 of each terminal unit 16, it progresses to S206 and information (existence of a score etc.) is stored in memory 64 in the middle of each game. In the following S207, the game data of the finals are read from the database (not shown) with which the past game data were stored, and it stores in memory 64. Then, in S208, CM data of the firm which is doing the sponsor contract are read from a database, and it stores in memory 64.

[0243] In the following S209, information, the past game data, and CM data are arranged in order of arbitration in the middle of each above-mentioned game, and it stores in memory 64. And in S205, information, the past game data, and CM data are displayed on the large-sized panel display 12 in the middle of each game edited by S209.

[0244] Thus, when the digest scene of each game does not exist among two or more games, while being able to prevent that the customer who is doing turn waiting other than a player by displaying the progress information on the game under present activation, the past game data, CM data, etc. is bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness can be raised.

[0245] Here, the modification 2 of the player card 20 is explained.

[0246] A two-dimensional bar code to arrange a superficial code pattern is in the rear face of the player card 20. However, it is necessary to detect not only the ID code for identifying a card but the location and sense (whenever [ position angle ]) of a code pattern which were printed by the rear face of the player card 20 with the card game equipment 10 of this invention. Therefore, if it is going to analyze the location and sense (include angle) of these ID codes and a code pattern to coincidence out of the image data picturized with image sensors 56, the number of parameters of data processing performed in an arithmetic circuit will increase, and detecting all code patterns will take most time amount.

[0247] Moreover, in order to process these data processing at high speed, data are processed sequentially, it narrows down only to required data, and unnecessary data have the effective approach of deleting. However, since information cannot be read unless it is from the one direction which intersects a bar code by square shape like a certain two-dimensional bar code from the former and it is necessary to also detect the sense (whenever [ position angle ]) at the time of location detection of the player card 20, although the number of parameters which should be processed at once is increasing, a parameter cannot be reduced any more, but the processing time will start it.

[0248] So, in this modification, a circular code pattern is used for location detection of the card data 112 printed by the rear face of the player card 20. Then, data processing of location detection processing of the player card 20 and the detection processing for which are fit (whenever [ position angle ]) can be divided and carried out, and location detection can be performed at high speed. Then, if include-angle detection is performed to the location (coordinate) of the player card 20 by which location detection was carried out, processing still more nearly required for detection will decrease. If decoding of the ID code of the card concerned is carried out to the data of the detected position coordinate and include angle at the end, it will become possible to carry out data processing of these data at high speed.

[0249] therefore, in this modification, it is obtained by reading the data pattern recorded on the rear face of the player card 20 -- it card coordinate location - is suitable (include angle), and detection of - ID code is divided into each phase, and is performed. First, include-angle detection is performed to the position coordinate of the player card arrangement panel 80 which detected the position coordinate of the player card 20 to all fields mostly (procedure 1), and then was detected (procedure 2), and decoding (procedure 3) of ID data of a card is carried out to the position coordinate and include angle detected at the end.

[0250] Drawing 49 is drawing showing an example of the code pattern of a modification 2. As shown in drawing 49 , the code pattern 170 which consists of two or more patterns with which radii differ is printed by the rear face of the player card 20 of a modification. This code pattern 170 has the detection pattern space 174, the ID data area 176 formed in the outside of the detection pattern space 174 whenever [ position angle ], the annular white field 178 formed inside the card location detection circle 172, the data area 180 formed inside the annular white field 178, and the central point 182 formed inside the data area 180 whenever [ position angle / which was formed in the periphery of the card location detection circle 172 and the card location detection circle 172 ]. The code pattern 170 is recognized according to the concentration difference of black partial 170a and white partial 170b.

[0251] Moreover, printing which used the ink which penetrates infrared radiation is performed to the code pattern 170, and a player can carry out a direct-vision private seal no longer to it. Therefore, the code pattern 170 is converted or forgery of the card which the person of a player or others worked on the code pattern 170, and modeled the code pattern 170 is prevented.

[0252] Moreover, it is formed by the code pattern 170 with the card location detection circle 172 concentric circular [ whenever / position angle / centering on the central point 182 ] in the detection pattern space 174, the ID data area 176, the annular white field 178, and a data area 180, and the ID data area 176 which serves as a large radius from the shorter side of a card 20 is formed in the configuration which curved in the shape of radii. That is, in the ID data area 176, since the part was recorded in the shape of radii to the rectangular card side among the circular patterns of the outermost periphery located in a radius [ major diameter / part / for a short side part ], the whole surface product of a card side can be used effectively.

[0253] Drawing 50 is drawing showing the image picturized with image sensors 56 in the rear face of the player card 20. If the above-mentioned code pattern 170 is picturized with image sensors 56 as shown in drawing 50 , monochrome part will be recognized to be "1" and a part for white Kurobe will be recognized as "0." Although the white parts of the ID data area 176 and a data area 180 are parts shown by hatching, they show information predetermined in combination with a black part rather than are blank.

[0254] That is, it is constituted so that it may extract as a 1-bit signal of the above-mentioned black part and a white part, and according to the contents of the information decided beforehand, the arrangement patterns of a black part and a white part differ, and the arrangement pattern of this black part and a white part functions as a code pattern. In addition, in this example, magnitude is decided that each ** bit (one black part or white part) becomes 6 dots on the screen which the image data picturized with image sensors 56 photoed.

[0255] With the card game equipment 10 mentioned above, it does not know whether the player card 20 is laid in the location of the sheet 80 throat for the play fields, and the sense of the player card 20 is not uniform and it is not known whether it is laid in the condition of having inclined in which direction of a hand of cut. Therefore, before detecting the code pattern 170 printed by the rear face of the player card 20, it is necessary to distinguish whenever [ detection location and position angle ].

[0256] So, at this example, code position (center position) detection is detected with the brightness difference of the inside of the card location detection circle 172, and an outside from the code pattern 170 of the player card 20. Therefore, the white field 171,173 is annularly formed in the inside and the outside of the card location detection circle 172, and, thereby, the brightness difference with inner circumference and a periphery is clarified by the card location detection circle 172. Since the card location detection circle 172 is a circle, it can detect a location regardless of the sense (whenever [ position angle ]) of a card 20.

[0257] Moreover, for detection of whenever [ position angle / of the code pattern 170 ] (sense of a card 20), projected parts [ of the detection pattern space 174 / 174a-174d ] circumferencial direction spacing is detected and distinguished outside the periphery of the card location detection circle 172 whenever [ position angle / which projects in a radial ]. Therefore, whenever [ position angle / of the card 20 concerned ] is distinguished by detecting the spacing, as spacing of an each projected parts [ 174a-174d ] circumferencial direction is not made into regular intervals but each spacing differs.

[0258] Moreover, the value of each bit is judged with the brightness difference of two adjacent half-bit fields. In case it asks for the brightness of each field, in order to lessen effect of the error at the time of a blur, or a location and include-angle detection, the part in front of a boundary is not used, but extracts the brightness of each field core.

[0259] As shown in drawing 51 , the starting position S1 of the bit of the ID data area 176 and a data area 180 - S4 change with each player cards 20.

[0260] As shown in drawing 52 , the 16-bit information which consists of pattern data 0-15 is acquired in the ID data area 176 and a data area 180. Moreover, each pattern data 0-15 consist of the above-mentioned black part and a white part, in order to make it easy to identify out of the image data picturized with image sensors 56, one area of a black part and a white part is set up greatly, and incorrect recognition of data is prevented.

[0261] Here, the card position-coordinate detection processing which CPU62 of a terminal unit 16 performs is explained. First, if the player card 20 is laid in the sheet 80 for the play fields, the position coordinate of the player card 20 will be detected. By detecting the card location detection circle 172 which becomes detection of a position coordinate from a circular code pattern here, since it is not influenced of whenever [ position angle / of a card 20 ], a position coordinate is detectable at a high speed.

[0262] Therefore, in card position-coordinate detection processing, the location of a card 20 is detected by measuring the brightness difference of the black part of the card location detection circle 172, and the white field formed in the inside and an outside with pattern matching from the code pattern 170 shown in drawing 5050 thru/or drawing 52 .

[0263] Since the location of the card location detection circle 172 is a location of a card 20 as the card position-coordinate detection approach is shown in drawing 53 (A) - (D), the location of a card 20 is recognized by detecting the location of the card location detection circle 172 out of the image data picturized with image sensors 56.

[0264] As shown in drawing 53 (A), the inside of the card location detection circle 172 is divided and evaluated to the fields R1-R12 of 12. Two pairs of points shown by the flake 182 and the sunspot 184 are installed in each fields R1-R12 divided into 12. In two pairs of these points, a flake 182 adds forward, a sunspot 184 adds each brightness as negative, and it considers as the evaluation value of each fields R1-R12.

[0265] The arrangement pattern of a flake 182 and a sunspot 184 is shown in drawing 53 (B) bordering on the periphery inside the card location detection circle 172. Based on the arrangement pattern of this flake 182 and sunspot 184, inner circumference profile data are evaluated for the inside periphery of the card location detection circle 172 using the card location detection circle 172 and its inside field 186. This recognizes the coordinate location where the location in which the player card 20 was laid is rough.

[0266] In addition, let the hatching part showing the card location detection circle 172 be the evaluation value 0. Moreover, the coordinate on which the threshold A which all the evaluation values of 12 fields divided as mentioned above set up was exceeded, and ten pieces (modification by setup is possible) exceeded the threshold B further before long is memorized as a candidate of a card coordinate. At this time, the sum of the evaluation value of all fields is memorized as an evaluation value N of that coordinate.

[0267] Next, it evaluates using 12 division patterns 188 shown in drawing 53 (C) to the card coordinate memorized as a candidate of a card coordinate. This 12 division pattern 188 is evaluated using the outside periphery and its outside field of the card location detection circle 172. The arrangement pattern of a flake 190 and a sunspot 192 is shown in drawing 53 (D) bordering on the periphery of the outside of the card location detection circle 172. Based on the arrangement pattern of this flake 190 and sunspot 192, periphery profile data are evaluated using the white field of the detection pattern space 174 whenever [ position angle / which was formed in the card location detection circle 172 and its outside in the outside periphery of the card location detection circle 172 ]. This recognizes the coordinate location where the location in which the player card 20 was laid is exact.

[0268] Four pairs of points shown by the flake 190 and the sunspot 192 are installed in each fields R1-R12 divided into 12 as mentioned above. In this point, a flake 190 adds forward, and a sunspot 192 adds each brightness as negative, and let that aggregate value be the evaluation value of each fields R1-R12. A hatching part is set to 0. And the coordinate on which the threshold C which all the evaluation values of each of these fields R1-R12 set up was exceeded, and nine pieces (modification by setup is possible) exceeded the threshold D further before long is memorized as a candidate of a card coordinate. At this time, the sum of the evaluation value of all the fields R1-R12 is memorized as an evaluation value M of that coordinate. Let the sum of the evaluation value N and the evaluation value M be the evaluation value sigma of the coordinate.

[0269] If it finishes evaluating all coordinates or the number of candidate coordinates exceeds the number of setup, it will cull out by deleting a coordinate with a small evaluation value to two or more candidate coordinates in the distance below the value set up as an infanticide distance. Let a coordinate with the big evaluation value which remained after thinning out be the coordinate location of the player card 20.

[0270] Next, the card include-angle detection processing performed after card location detection is explained with reference to drawing 54 and drawing 55 (A) - (C). As shown in drawing 54 , in card include-angle detection processing, include-angle detection is performed to the coordinate with which the card location was detected. As this include-angle detection approach, projected parts [ of the detection pattern space 174 (hatching shows among drawing 54 ) / 174a-174d ] circumferencial direction spacing is detected and distinguished from the periphery of the card location detection circle 172 whenever [ position angle / which projects in a radial ].

Thus, since the coordinate which performs include-angle detection processing is narrowed down by location detection, the processing time is shortened rather than it carries out to all coordinates.
[0271] Whenever [ position angle / of the player card 20 laid in the sheet 80 for the play fields ] (sense) is arranged at interval which is different so that each spacing L1-L4 of a projected parts [ which project on the periphery of the detection pattern space 174 whenever / position angle / 174a-174d ] circumferencial direction may be set as spacing decided beforehand and each spacing L1-L4 may be set to L1<L2<L3<L4. Therefore, an each projected parts [ 174a-174d ] detection location is scanned, and the time interval of a detection pulse shows whenever [ position angle / of the player card 20 ].
[0272] In this example, the pattern beforehand remembered to be the pattern of an each projected parts [ 174a-174d ] detection pulse is collated, and pattern matching performs include-angle detection. if each projected parts [ for include-angle detection / 174a-174d ] width of face (dimension of a hoop direction) is set to 1 -- each projected parts 174a-174d -- each -- it arranges so that the ratio of spacing L1:L2:L3:L4 may be set to 3:4:5:8. Thus, incorrect recognition of include-angle detection is prevented by changing the ratio of spacing L1-L4.
[0273] In addition, instead of changing the ratio of each each projected parts [ 174a-174d ] spacing L1-L4, each projected parts [ 174a-174d ] width of face (dimension of a hoop direction) may be changed so that it may become a dimension different, respectively. Moreover, the detection pattern space 174 makes the detection error small whenever [ position angle ] by taking greatly as much as possible just before the width of face of the player card 20.
[0274] Drawing 55 (A) As shown in - (C), by the each projected parts [ 174a-174d ] detection approach, the edge (side-face edge) is detected whenever [ position angle ] from the concentration difference (brightness difference) with each projected parts [ to the white of the detection pattern space 174 / 174a-174d ] black, and spacing on the time-axis of this detecting signal turns into each above-mentioned spacing L1-L4. Moreover, when an each projected parts [ 174a-174d ] edge is detected, the detecting signal of the edge which switches from white black starts to + side, and the detecting signal of the edge which switches from black to white falls to - side. Therefore, it is in agreement with any of the spacing L1-L4 whose spacing L of the detecting signal by the side of - and the detecting signal by the side of + detected next is each projected parts 174a-174d they are.
[0275] In this example, brightness data Y [n] (at the time of an include angle n) is taken out for the detection pattern space 174 by 1-degree unit to the include angle of 0 degree - 359 degrees whenever [ position angle ], and Edge[n] =V[n-1]-V [n+1] extracts the value of an edge. In addition, let above [ front ] be the criteria include angle of 0 degree in the sheet 80 for the play fields, in view of a player.
[0276] And it asks, shifting at a time 1 degree of total value which multiplied the detecting signal of the edge of an each projected parts [ which are shown in the filter signal (registered beforehand) shown in drawing 55 (A), and drawing 55 (B) / 174a-174d ] hoop direction. If an edge detecting signal is in agreement in a filter signal at an angle of arbitration, total value will serve as max. Therefore, let the place where the total value shown in drawing 55 (C) became max be the include angle (sense) alpha of the card 20 concerned. Therefore, it is distinguished that the player card 20 laid in the sheet 80 for the play fields is the sense carried out include-angle alpha rotation clockwise to a criteria include angle (0 degree).
[0277] When how depending on which the lighting to the player card 20 hits is not uniform, spacing of a disregard level of a white part is sometimes smaller than spacing of a black part, distinction with a noise suits in ** and there are things. on the other hand, the thing done for processing with lighting almost relative as homogeneity in the very narrow range even when how depending on which the lighting to the player card 20 hits by evaluating by this example as mentioned above with the detection value of the edge of an each projected parts [ 174a-174d ] hoop direction is not uniform -- each projected part 174 -- since a-174d is correctly detectable, detection of whenever [ position angle ] can carry out to accuracy more.
[0278] Here, ID decoding which reads the ID data area 176 and a data area 180 is explained.
[0279] If whenever [ position-coordinate / of the player card 20 / and position angle ] is known as mentioned above, since the bit position formed in the ID data area 176 and the data area 180 is decided uniquely, it can perform distinction processing correctly, without incorrect-recognizing. Moreover, at this example, since what is necessary is to carry out decoding only to the position coordinate of the detected player card 20, card information can be read in a short time.
[0280] the code pattern formed in the ID data area 176 and the data area 180 as shown in drawing 49 thru/or drawing 52 mentioned above -- each code (black partial 170a and white partial 170b) -- about 6 -- the field

which consisted of dot x6 dots -- a half-bit (black partial 170a or white partial 170b) -- carrying out -- the inside of the field of a half-bit -- all -- white -- or suppose that it is black. The adjacent code pattern space surely constitutes 1 bit from the combination of black partial 170a and white partial 170b. Thereby, by the optical nonuniformity of lighting etc., the absolute value of brightness enables it to judge each bit of a code pattern with the brightness difference of a relative value, even when it cannot judge.

[0281] As shown in drawing 52 , the code patterns 0-3 for 4 bits are arranged in the data area 180 arranged inside the card location detection circle 172, and it calculates to it from whenever [ card position-coordinate / which detected these locations arranged as mentioned above /, and position angle ], and it is asked for the evaluation value of each ** bit field. The evaluation value in this case is total of two or more dots in the data area 180 displayed on the card location in the image picturized with image sensors 56.

[0282] Thus, the effect can be made small even if there are a dot chip and a noise by considering an evaluation value as total of two or more dots. In addition, if evaluation can do 1 dot correctly, it is good also considering the value for 1 dot as an evaluation value.

[0283] At this time, since there is a possibility of becoming the hindrance at the time of calculating an exact evaluation value by the position coordinate, the error at the time of include-angle detection, the blur at the time of photography, etc., the boundary part of a data area 180 is not used.

[0284] The code patterns 4-15 for 12 bits are arranged in the ID data area 176 arranged similarly on the outside of the card location detection circle 172, it is asked also for the evaluation value of the code patterns 4-15, and is asked for each bit of the card data memorized by the player card 20. At this time, if there are some to which the difference of the evaluation value of the white part of each bit and a black part exceeded the threshold E more than the number of setup, it will register as a proper code, and if there is more than no number [ thing / beyond a threshold E ] of setup, it will delete as an illegal code.

[0285] Moreover, a parity (error detecting code) bit is set up and the code out of which the parity error came is also deleted as an illegal code. And the bit array recognized as a right value is decoded according to ID decoding table (not shown), and it asks for ID data of the player card 20 concerned. In this example, among 16 bits, the most significant 2 bits are a parity bit, parity is calculated, and if it is an error, it will delete as an illegal code.

[0286] Here, aspect ratio amendment of the image picturized by image sensors 56 is explained.

[0287] the model of image sensors 56 -- side [ of a pixel ]: -- a vertical ratio may not be 1:1 In that case, since an image will be distorted and it will be hard to treat if an image is rotated as it is, aspect ratio amendment processing is performed. For example, the side of a pixel: When a vertical ratio is 1.29:1, make a pixel into 1.29 times at length so that it may become a square pixel.

[0288] Next, lens distortion amendment processing of image sensors 56 is explained. When there is lens distortion of image sensors 56 (refer to drawing 12 (A)), it is the following, and it is necessary to make and amend and to remove distortion of a lens. The focal distance of image sensors 56 is doubled with 4.8mm in that case. And the image of image sensors 56 will be manually adjusted so that o'clock of 500mm may become 440 dots (0.88 dot/mm) 100%. Moreover, in this example, it is also possible to carry out to regulate automatically in quest of a scale factor from the criteria marker 200 who picturized with image sensors 56.

[0289] The criteria marker 200 who consists of a black ring shown in drawing 56 (A) is formed in the four corners of the sheet 80 for the play fields. And marker position detection processing for a normal coordinate setup is performed out of the image of the sheet 80 for the play fields picturized by image sensors 56. And the criteria marker's 200 coordinate prepared in the four corners of the sheet 80 for the play fields is recognized.

[0290] The Sobel filter is used as the criteria marker's 200 recognition approach. As shown in drawing 56 (B), the Sobel filter detects the marker pattern 202 from the concentration difference of the criteria marker's 200 profile, and the criteria marker's 200 profile is recognized. Thus, an offset component can be removed by taking out the criteria marker's 200 profile.

[0291] In addition, in profile extract processing of the criteria marker 200, the criteria marker's 200 profile is extracted using the Sobel filter. The location where the numeric value which applied and totaled the criteria marker's 200 profile value becomes max becomes the criteria marker's 200 coordinate. And this criteria marker's 200 location and pattern matching are performed, and the position coordinate of the sheet 80 for the play fields is amended.

[0292] Drawing 57 is a flow chart which shows the procedure for recognizing the card data memorized at the

rear face of the player card 20 of the above-mentioned modification 2. As shown in drawing 57 , by CPU62 of terminal unit 16a, an injection of coin performs aspect ratio amendment processing by S211. By the model of image sensors 56 mentioned above, since the horizontal:length ratio of a pixel may not be 1:1, this aspect ratio amendment processing amends the aspect ratio of a pixel to 1:1 so that it may become a square pixel.
[0293] In the following S212, spherical-surface amendment filtering which amends distortion of the lens of image sensors 56 is performed. This spherical-surface amendment filtering is processing which obtains an image without distortion as removed distortion of the image resulting from distortion of the lens system of image sensors as shown in drawing 12 (A) and shown in drawing 12 (B).
[0294] Then, in S213, normal coordinate marker position detection processing is performed. This normal coordinate marker position detection processing extracts and recognizes the criteria marker's 200 (refer to drawing 55 (A) and (B)) profile prepared in the four corners of the sheet 80 for the play fields as mentioned above (S213a).
[0295] In the following S213b, pattern-matching processing with the criteria marker's 200 detection location established in the four corners of the sheet 80 for the play fields is performed. That is, the criteria marker pattern data beforehand remembered to be the criteria marker's 200 detection location by the database are collated, it shifts, an amount is calculated, and a gap of the image picturized with image sensors 56 according to this amount of gaps is amended.
[0296] In the following S214, as shown in drawing 53 (A) - (D) mentioned above, card location detection processing is performed to all the coordinates on the sheet 80 for the play fields. Pattern-matching processing is performed in S214a. That is, it collates with the pattern data of each rotation location registered beforehand, and mark are given, it shifts 1 dot at a time, all images are searched, and the coordinate and include angle of a value more than a certain level are stored. In the following S214b, since it only distinguished with the value more than a certain level, infanticide processing which the unnecessary coordinate is also included, therefore deletes an excessive pixel is performed.
[0297] Card include-angle detection processing is performed in the following S215. As shown in drawing 54 and drawing 55 (A) - (C) mentioned above, this card include-angle detection processing has detected the edge whenever [ position angle ] from the concentration difference with each projected parts [ to the white of the detection pattern space 174 / 174a-174d ] black, carries out pattern MATCHIGU of the spacing on the time-axis of this detecting signal, and asks for whenever [ card position angle ] (S215a).
[0298] In the following S216, as the image of brightness is cut down and shown in drawing 51 and drawing 52 which were mentioned above from the card position coordinate mentioned above and an include angle, a right-and-left brightness difference reads monochrome =0 and monochrome =1 from the brightness difference formed in the ID data area 176 and the data area 180, for example. And the ID code of the code patterns 0-15 of the ID data area 176 memorized at the rear face of the player card 20 and a data area 180 is detected.
[0299] Drawing 58 is the top view showing the modification 3 of the player card 20. As shown in drawing 58 , the code pattern 210 is formed in the rear face of the player card 20, and the code pattern 210 has the detection patterns (white part) 214a-214d and the ID data area 216 formed outside the card location detection circle 212 whenever [ position angle / which was formed so that it might lap with the card location detection circle (black part) 212 formed circularly and the card location detection circle 212 ].
[0300] Whenever [ position angle ], in order that the detection patterns (white part) 214a-214d may perform drawing 55 (A) - (C) edge detection mentioned above and may detect a card include angle, they are arranged in the location used as the dimension from which each spacing of a hoop direction differs.
[0301] The checkered code pattern 218 formed in the direction of four directions is formed in the ID data area 216. this code pattern 218 -- each code (black partial 218a and white partial 218b) -- about 6 -- the square field which consisted of dot x6 dots -- a half-bit (black partial 218a or white partial 218b) -- carrying out -- the inside of the field of a half-bit -- all -- white -- or suppose that it is black. The adjacent code pattern space surely constitutes 1 bit from the combination of black partial 218a and white partial 218b. Thereby, by the optical nonuniformity of lighting etc., the absolute value of brightness enables it to judge each bit of a code pattern with the brightness difference of a relative value, even when it cannot judge.
[0302] Moreover, the above-mentioned code pattern 170,210 may be formed in both sides on a card face and the rear face of a card. In that case, even if the both sides of the player card 20 become reverse, the code pattern 170,210 can be read.

[0303] Moreover, you may make it form a code pattern which is different with a card face and the card rear face as another modification of the player card 20. For example, the code pattern 170 can be formed in the front face of the player card 20, and the code pattern 210 can also be formed in a rear face. In this case, since the code pattern 170,210 is recorded on the both sides of the player card 20, the code pattern read by which [ on a card face and the rear face of a card ] is turned up can be switched.
[0304] In addition, although what applied the soccer game to card game equipment 10 was mentioned as an example in the above-mentioned example, if it is the sport with which not only this but two or more of other players constitute a team, and contest, of course, it is applicable to other sport games.
[0305] Moreover, of course, it is applicable also to an organization game which two or more individuals participate and does a joint activity for the same purpose even except a sport.
[0306]
[Effect of the Invention] If the data of the card which was laid in the play field according to invention according to claim 1 are read with a card data reading means like ****, since the game image according to card data will be displayed, simulation of the game to which a player displays on the game image according to the combination of the card data of two or more cards arranged in on the play field, and performs a team play can be carried out.
[0307] Since it comes to have a card sense detection means to detect the sense of the card laid in the play field according to invention of the claim 2 above-mentioned publication, card data can be read according to the sense of a card.
[0308] Since it comes to have a card sense detection means to detect the sense of the card laid in the play field according to invention of the claim 3 above-mentioned publication, card data can be read according to the sense of a card.
[0309] Since it is the laminated structure which piled up the sheet member to which the play field penetrates the translucent sheet member or invisible light by which the card installation field according to the contents of a game was printed on the transparent plate surface according to invention of the claim 4 above-mentioned publication, the simulation ground according to events, such as soccer and baseball, can be formed on the play field.
[0310] Since the trading card by which the character according to individual according to the contents of a game was printed by the card-face side is used according to invention of the claim 5 above-mentioned publication, the cards of various characters (for example, sport player) according to various games can be collected, and the card of a favorite player or a popular player can be collected and enjoyed, and from a player, it is not visible and can have a internal structure.
[0311] In order to use the card which has the Records Department where the card data for the pattern according to individual according to the contents of a game being printed by the front face, and distinguishing the property of a pattern proper at a front face or the rear face were recorded according to invention of the claim 6 above-mentioned publication, While being able to collect the cards of various patterns according to various games, or a character (for example, sport player) and being able to collect and enjoy the card of a favorite player or a popular player It becomes possible to make the character property (for example, a sport player's ability) of a card reflect in game expansion.
[0312] Since the code pattern which curved to the circumferencial direction uses the card recorded as card data according to invention of the claim 7 above-mentioned publication, a code pattern can be read irrespective of the sense (include angle) of a card.
[0313] According to invention of the claim 8 above-mentioned publication, since two or more different patterns of a radius are formed in concentric circular, the pattern for location detection and an information pattern can be divided and recorded, and a code pattern can also shorten the time amount which reading control takes.
[0314] According to invention of the claim 9 above-mentioned publication, since the code pattern is formed identifiable by the optical reading means using infrared radiation, it can carry out as [ check / by printing in the coatings of the property to make the front face of a code pattern penetrate infrared radiation / a code pattern ], and the information on the card concerned can be hidden.
[0315] Since the part was recorded in the shape of radii among the circular patterns of the outermost periphery with which a code pattern is located in a radius [ major diameter / part / for a short side part ] to a rectangular card side according to invention of the claim 10 above-mentioned publication, the whole surface product of a

card side can be used effectively.

[0316] Since a code pattern has the location detection circle for detecting a card location, the inside data which were formed inside this location detection circle, and outside data which were formed in the outside of said location detection circle according to invention of the claim 11 above-mentioned publication and the code pattern in which the code pattern for location detection and the data of the card proper concerned are shown is recordable, while being able to increase amount of information, location detection can perform by high-speed processing.

[0317] According to invention of the claim 12 above-mentioned publication, since the location detection circle is arranged at intervals of the ununiformity in the include-angle detection pattern for detecting the include angle of a card on a periphery, after a card carries out location detection by detecting a location detection circle, it can detect an include-angle detection pattern and can detect the sense (include angle) of a card correctly.

[0318] According to invention of the claim 13 above-mentioned publication, since the code pattern is formed in both sides on a card face and the rear face of a card, a code pattern can be read even if the both sides of a card become reverse.

[0319] Since a code pattern which is different with a card face and the card rear face is recorded according to invention of the claim 14 above-mentioned publication, the code pattern read by which [ on a card face and the rear face of a card ] is turned up can be switched.

[0320] According to invention of the claim 15 above-mentioned publication, since the alphabetic character and image according to the contents of information of a code pattern were printed on the code pattern, forgery and reconstruction of a code pattern can be prevented by hiding so that the direct-vision private seal of the code pattern cannot be carried out.

[0321] Since the code pattern recorded on the card by the optical reading means using infrared radiation is read according to invention of the claim 16 above-mentioned publication, it can carry out as [ check / by printing in the coatings of the property to make the front face of a code pattern penetrate infrared radiation / a code pattern ], and forgery and reconstruction of a code pattern can be prevented.

[0322] The inner circumference profile data which are formed of the inner circumference edge of a location detection circle and the inside of a location detection circle which were recorded on the card according to invention of the claim 17 above-mentioned publication, Since it comes to have a discernment means to detect the location of said location detection circle by identifying the periphery profile data formed of the periphery edge of a location detection circle, and the outside of a location detection circle, a card location (coordinate) is correctly detectable irrespective of the sense (include angle) of a card.

[0323] According to invention of the claim 18 above-mentioned publication, since a discernment means generates inner circumference profile data and periphery profile data from the concentration difference of the profile and the circumference of a location detection circle, a card location (coordinate) is correctly detectable.

[0324] The 1st procedure which generates the inner circumference profile data which are formed of the inner circumference edge of a location detection circle and the inside of a location detection circle which were recorded on the card according to invention of the claim 19 above-mentioned publication, The 2nd procedure which generates the periphery profile data formed of the periphery edge of a location detection circle, and the outside of a location detection circle, Since the 3rd procedure of identifying the location of a location detection circle by identifying inner circumference profile data and periphery profile data is performed, ** and a card location (coordinate) are correctly detectable.

[0325] The 1st procedure of detecting the location of the location detection circle recorded on the card according to invention of the claim 20 above-mentioned publication, The 2nd procedure of detecting the include-angle detection pattern formed in the periphery of a location detection circle, Since the 3rd procedure of detecting the pattern recorded inside the location detection circle, and the 4th procedure of detecting the pattern recorded on the outside of a location detection circle are performed, a card location (coordinate) and card data are detectable at exact and a high speed.

[0326] In order according to invention of the claim 21 above-mentioned publication for the data pattern according to the data in which the property of the pattern proper printed by the card face is shown to be printed by the card face or the rear face and to detect a data pattern, it becomes possible to make the pattern property (for example, a sport player's ability) of a card reflect in game expansion.

[0327] Since according to invention of the claim 22 above-mentioned publication the data pattern is printed in the ink which absorbs invisible light when invisible light is irradiated so that the signal according to the property of the character concerned printed by the front face can be read, while being able to read the data pattern of a card correctly, the interior of a case can be made pitch-black so that a card data reading means may not be in sight from the upper part of the play field.

[0328] The light source to which a card data reading means irradiates invisible light at the rear face of a card according to invention of the claim 23 above-mentioned publication, Since it comes to have the image sensors which receive the reflected light reflected from the rear face of a card, and generate image data, and a data discernment means to discriminate card data from the image data obtained by image sensors, It becomes possible to obtain as image data so that a player may not notice the data pattern in which the character property (for example, a sport player's ability) recorded on two or more cards laid on the play field is shown, and the reading time amount of a data pattern can be shortened.

[0329] According to invention of the claim 24 above-mentioned publication, the marker for detecting the distortion of an image is prepared in the four corners of the play field. In order to calculate a marker's amount of gaps prepared in the four corners of the play field out of the image data obtained by image sensors and to amend the reading error of card data based on this amount of gaps, The data pattern in which the character property (for example, a sport player's ability) recorded on two or more cards laid on the play field is shown is correctly detectable.

[0330] Since according to invention of the claim 25 above-mentioned publication it was inclined and prepared in the rear face of a card at the predetermined include angle and the reflecting plate in which image sensors are made to turn and reflect the reflected light reflected from the rear face of a card was formed, it becomes possible to consider a card data reading means as a compact configuration.

[0331] Since according to invention of the claim 26 above-mentioned publication a card data reading means is contained in the case attached in the play field on the top face, it has the ramp which supports a reflecting plate so that it may incline at a predetermined include angle to the play field in a case, and the guide peg of a player is contained by the ramp bottom, operability in case a player arranges a card in on the play field is improvable.

[0332] If the data recorded on the rear face of the card laid in the play field are read according to invention of the claim 27 above-mentioned publication, in order choose the game image according to the combination of the read card data from the image data of the arbitration memorized by the storage means and to display it, it becomes possible to carry out the simulation of the versus fighting game of the team formed of the combination of the card data read in two or more cards.

[0333] A sport player is printed by the card face, and since the numeric data which evaluated the ability of the sport player concerned at the card rear face is recorded, a player is collectable according to invention of the claim 28 above-mentioned publication, as a trading card while being able to show card data required to advance a card game by arranging a card in the predetermined location on the play field.

[0334] According to invention of the claim 29 above-mentioned publication, the personal data of the soccer player concerned recorded on the rear face of the card laid in the play field are read. The play level of the team according to the combination of each player's personal data memorized by two or more cards is set up. In order to choose the image data of the arbitration memorized by the storage means according to the set-up team parameter and to display the selected game image, A player can display the soccer game image according to the combination of a soccer player's personal data recorded on two or more cards arranged in on the play field, and can carry out simulation of the soccer game.

[0335] According to invention of the claim 30 above-mentioned publication, since a player individual's individual parameter is updated according to each player's amount of practice, a player can be raised and each player's game level can be raised.

[0336] In order to memorize each player's individual parameter set up from the team parameter and individual parameter setup means which were set up by the team parameter setting means according to invention of the claim 31 above-mentioned publication, it becomes possible to make the result of the practice and the game which were held at the last play reflect in a next play.

[0337] Since it comes to have the play field in which the card of arbitration is alternatively laid among two or more cards equipped with the data of a proper, and a card data reading means to read the data of the card laid in the play field according to invention of the claim 32 above-mentioned publication, the data of two or more cards can be read to coincidence, and reading time amount can be shortened.

[0338] The player election mode in which each player who forms a team is elected from two or more player cards according to invention of the claim 33 above-mentioned publication, The player training mode in which each elected player is practiced, and the game mode which generates the image of a game according to each player parameter and team parameter which were updated by the practice program, In order to make the message which was made to perform the mode which chooses the message of 1 and was chosen from two or more messages displayed in the middle of a game before and after game termination reflect in a game, The player whom the player elected can be made to be able to raise, the level of a team can be raised, and each player's practice result can be confirmed in a game.

[0339] The procedure 1 of electing each player who forms a team in a computer from two or more player cards according to invention of above-mentioned claim 34 and 35 publications, The procedure 2 of practicing each player elected in the procedure 1, and the procedure 3 which generates the image of a game according to each player parameter and team parameter which were updated by the procedure 2, In order to make a computer read the program for performing the procedure 4 of performing a certain contact with each player after game termination, Simulation of the game whose player displays the game image according to a player's parameter and team parameter which were recorded on two or more cards arranged in on the play field, and performs a team play can be carried out.

[0340] When a player offers two or more cards according to invention of the claim 36 above-mentioned publication, a team is formed, since it has the control means which displays on a monitor the simulation image which opposes each team which two or more players raised, it becomes possible to play a game between the teams of each player, and each player can participate in a game as a supervisor of a team.

[0341] Since it comes to have the Maine control section to which the game data according to individual are transmitted from two or more terminal units which read the data of a card, and two or more terminal units, and the large-sized display which is connected to the Maine control section and displays the game image according to each game advance of two or more terminal units according to invention of the claim 37 above-mentioned publication, player of a lot of people can operate two or more terminal units to coincidence, and can enjoy a game.

[0342] Since according to invention of the claim 38 above-mentioned publication the Maine control section chooses two terminal units which a player operates from two or more terminal units and the game data of selection this two terminal units which carried out this are opposed, unknown players can be pitched against each other on a computer, and they can vie in mutual capacity.

[0343] Since the computer of equipment is opposed as a virtual partner in the end of an end it was chosen from the remaining terminal unit when equipment cannot be chosen in the end of the other end other players which serve as a waging-war partner to equipment in the end of an end a player operates it among two or more terminal units operate it according to invention of the claim 39 above-mentioned publication, even when the number of players is insufficient, it can be pitched against each other.

[0344] When the data of the card laid in the play field with the card data reading means cannot be read according to invention of the claim 40 above-mentioned publication, in order to generate the alternative card data which replace the card data for which the recognition concerned is improper, For example, even when the data of a card cannot be read according to secular change of a card etc., it becomes possible to start a card game, using alternative card data instead, and the game delay depended improper [ reading of card data ] can be canceled.

[0345] When the data of a card cannot be read with a card data reading means after game initiation according to invention of the claim 41 above-mentioned publication, In order to provide as alternative card data which extract the card data of arbitration out of the card data used for the past memorized by the storage means, and replace card data [ that it cannot recognize ], For example, even when the data of a card cannot be read according to secular change of a card etc., it becomes possible to start a card game, using alternative card data instead, and the game delay depended improper [ reading of card data ] can be canceled.

[0346] Since according to invention of the claim 42 above-mentioned publication only the positional information of the card laid in the play field is read when the data of a card cannot be read, the location of the card using alternative card data can be recognized.

[0347] Since according to invention of the claim 43 above-mentioned publication the positional information of the card concerned which cannot be read among the cards laid in the play field, and exchange of the card

concerned are notified when the data of a card cannot be read with a card data reading means, it becomes possible to start a card game and the game delay depended improper [ reading of card data ] can cancel by making it exchange for another card to a player.
[0348] A storage means to memorize the card data used into the last game according to invention of the claim 44 above-mentioned publication, When the data of a card cannot be read with a card data reading means in this game, Since it comes to have a correction card data generation means to read the card data of the past of the card for which the recognition concerned is improper out of the card data memorized by the storage means, and to generate correction card data, The card data used into the last game memorized by the storage means can be used as correction card data, and the game delay depended improper [ reading of card data ] can be canceled.
[0349] Since the digest scene of each game is displayed on a large-sized display among two or more games performed based on the input from two or more terminal units according to invention of the claim 45 above-mentioned publication, while being able to prevent that the customer who is doing turn waiting other than a player is bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness can be raised.
[0350] When the digest scene of each game does not exist among two or more games performed based on the input from that of two or more terminal units according to invention of the claim 46 above-mentioned publication, Since the past game scene is chosen and it is made to display on a large-sized display, while being able to prevent that the customer who is doing turn waiting other than a player is bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness can be raised.
[0351] When the digest scene of each game does not exist among two or more games performed based on the input from two or more terminal units according to invention of the claim 47 above-mentioned publication, in order to display the progress information on the game under current activation, While being able to prevent that the customer who is doing turn waiting other than a player is bored, the fun of a game can be advertized to the new customer who has not participated in a game, and customer gathering effectiveness can be raised.
[0352] Since according to invention of the claim 48 above-mentioned publication a coin injection is received and a card game is started after that, after reading the card information the reading means was remembered to be by the memory card, while being able to start a game based on the data of the card read in the memory card which a player owns, it can prevent that the player which does not own the memory card participates in a game.
[0353] Since the skill of the player corresponding to the class and card data of a card which the player concerned owns at least in a memory card, and the past game result are memorized according to invention of the claim 49 above-mentioned publication, while data required for a game are obtained by reading the information memorized by the memory card, it can check having rating for a player participating in a game.
[0354] The 1st procedure of reading the information which was memorized by the memory card inserted in the memory card insertion section according to invention of the claim 50 above-mentioned publication, By reading the program for performing the 2nd procedure of receiving a coin injection after reading the information memorized by the memory card, and the 3rd procedure which starts a card game after receiving a coin injection While being able to start a game based on the data of the card read in the memory card which a player owns, it can prevent that the player which does not own the memory card participates in a game.

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[Translation done.]

* NOTICES *

**JPO and NCIPI are not responsible for any damages caused by the use of this translation.**

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

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DRAWINGS

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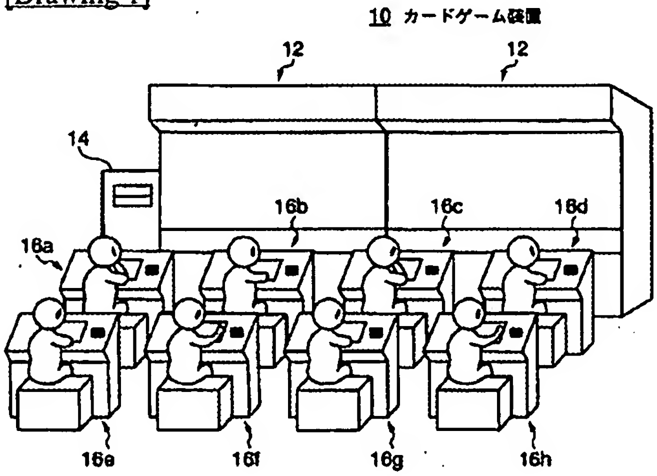
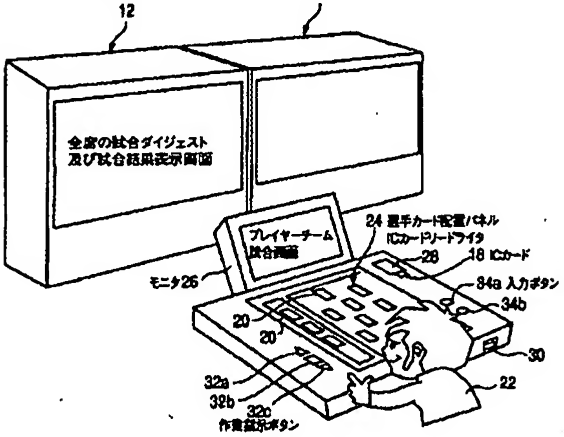
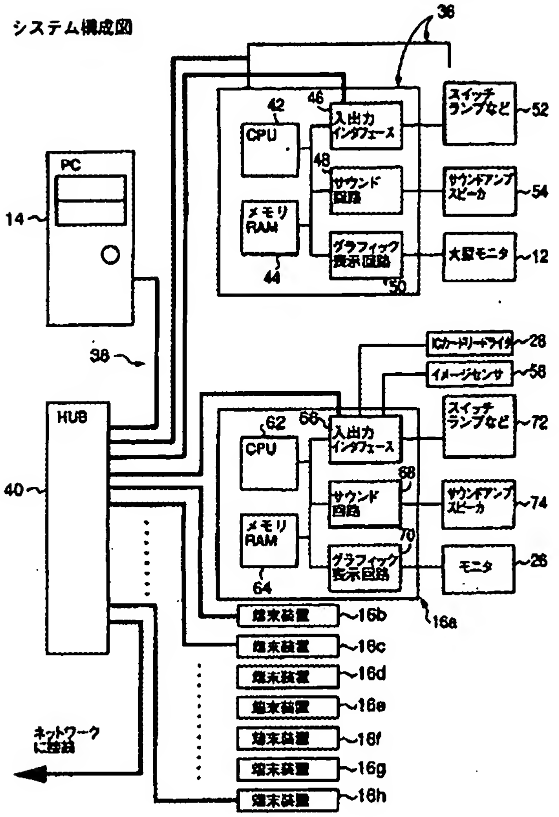
[Drawing 1]


10 カードゲーム装置
12
12
14
16a
16b
16c
16d
16e
16f
16g
16h

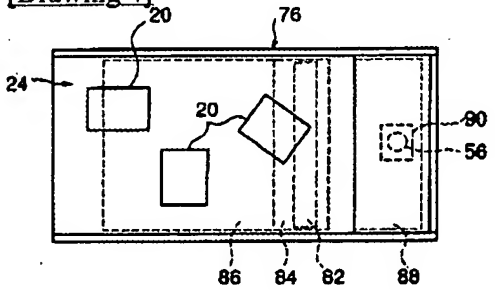
[Drawing 2]


12
12
全席の試合ダイジェスト
及び試合結果表示画面
プレイヤーチーム
試合画面
24 選手カード配置パネル
ICカードリードライタ
28
18 ICカード
34a 入力ボタン
34b
モニタ26
20
20
30
22
32a
32b
32c
作戦指示ボタン

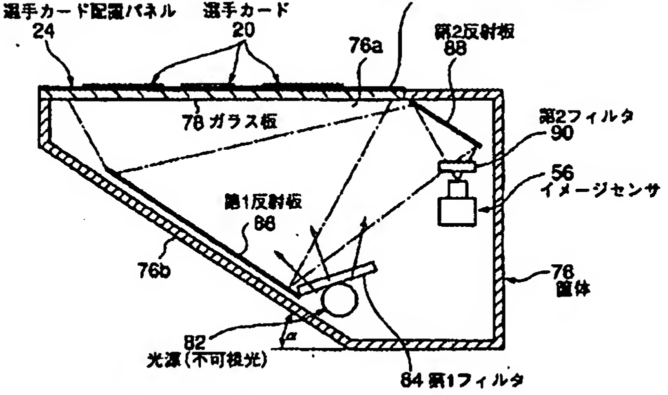
[Drawing 3]


システム構成図
36
42
46
CPU
入出力インタフェース
スイッチランプなど
52
48
サウンド回路
サウンドアンプスピーカ
54
PC
14
メモリRAM
グラフィック表示回路
大型モニタ
12
44
50
ICカードリードライタ
28
イメージセンサ
58
38
HUB
62
56
CPU
入出力インタフェース
スイッチランプなど
72
40
68
サウンド回路
サウンドアンプスピーカ
74
メモリRAM
70
グラフィック表示回路
モニタ
26
64
端末装置
16b
16a
端末装置
16c
端末装置
16d
端末装置
16e
端末装置
16f
ネットワークに接続
端末装置
16g
端末装置
16h

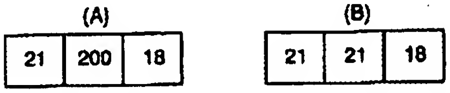
[Drawing 4]


20
76
24
20
90
56
86
84
82
88

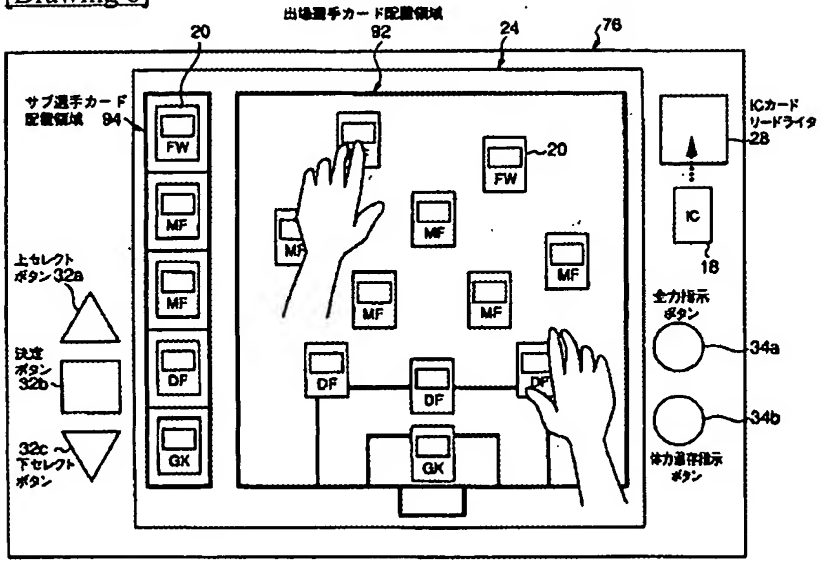
[Drawing 5]


80 プレイフィールド用シート
選手カード配置パネル
24
選手カード
20
76a
第2反射板
88
78 ガラス板
第2フィルタ
90
56
イメージセンサ
第1反射板
86
76b
76
筐体
α
82
光源(不可視光)
84 第1フィルタ

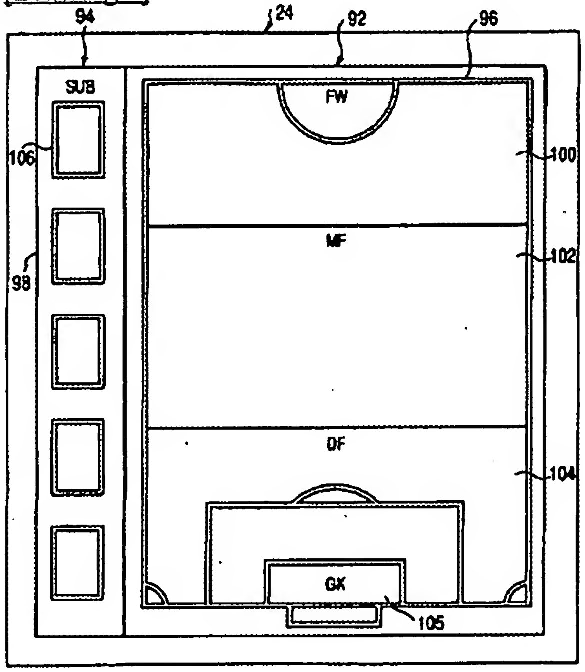
[Drawing 11]


(A)
21
200
18
(B)
21
21
18

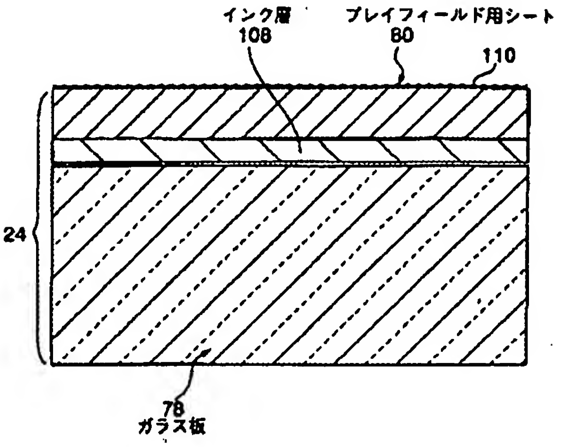
[Drawing 6]


出場選手カード配置領域
92
20
24
76
サブ選手カード配置領域 94
FW
MF
MF
DF
GK
FW
20
MF
MF
MF
MF
MF
DF
DF
DF
GK
ICカード
リードライタ
28
IC
18
上セレクト
ボタン 32a
決定
ボタン
32b
32c
下セレクト
ボタン
全力指示
ボタン
34a
34b
体力温存指示
ボタン

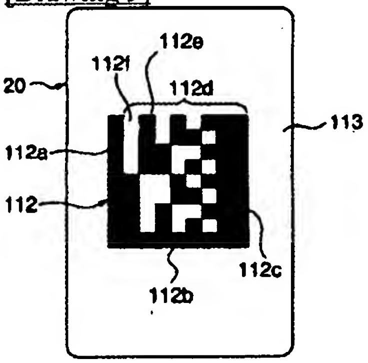
[Drawing 7]


94
24
92
96
SUB
FW
106
100
MF
102
98
DF
104
GK
105

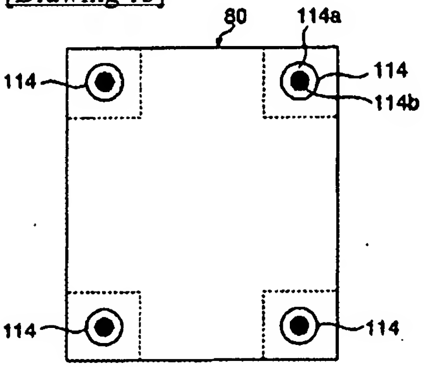
[Drawing 8]


インク層
108
プレイフィールド用シート
80
110
24
78
ガラス板

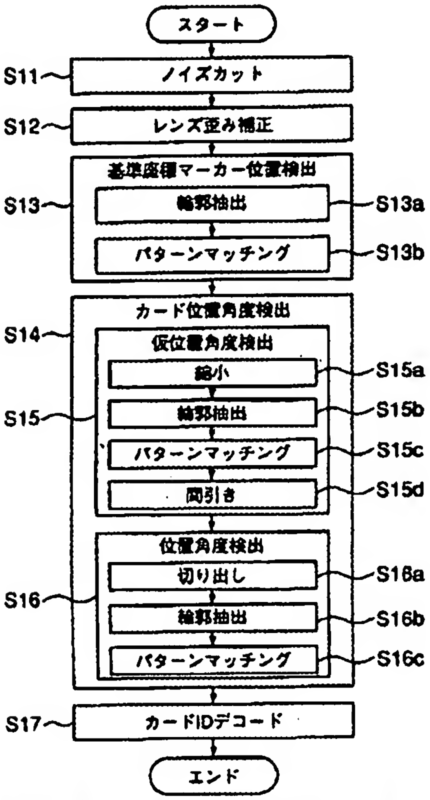
[Drawing 9]


20
112f
112e
112d
113
112a
112
112c
112b

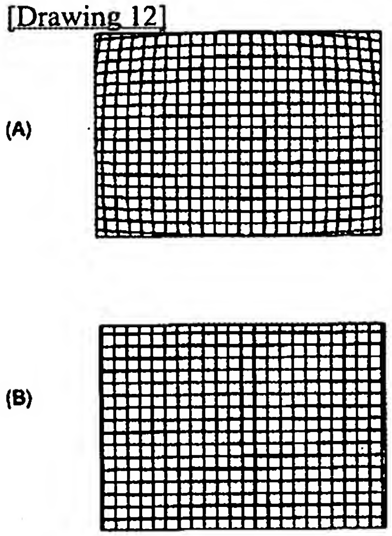
[Drawing 15]


80
114a
114
114
114b
114
114

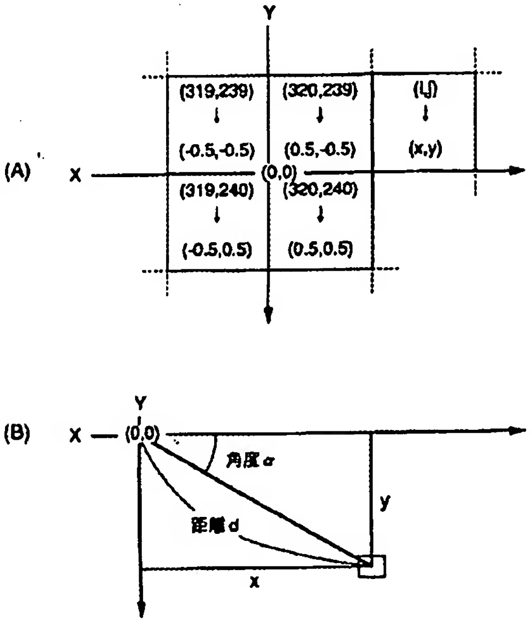
[Drawing 10]


スタート
S11
ノイズカット
S12
レンズ歪み補正
S13
基準座標マーカー位置検出
輪郭抽出
S13a
パターンマッチング
S13b
S14
カード位置角度検出
S15
仮位置角度検出
縮小
S15a
輪郭抽出
S15b
パターンマッチング
S15c
間引き
S15d
S16
位置角度検出
切り出し
S16a
輪郭抽出
S16b
パターンマッチング
S16c
S17
カードIDデコード
エンド

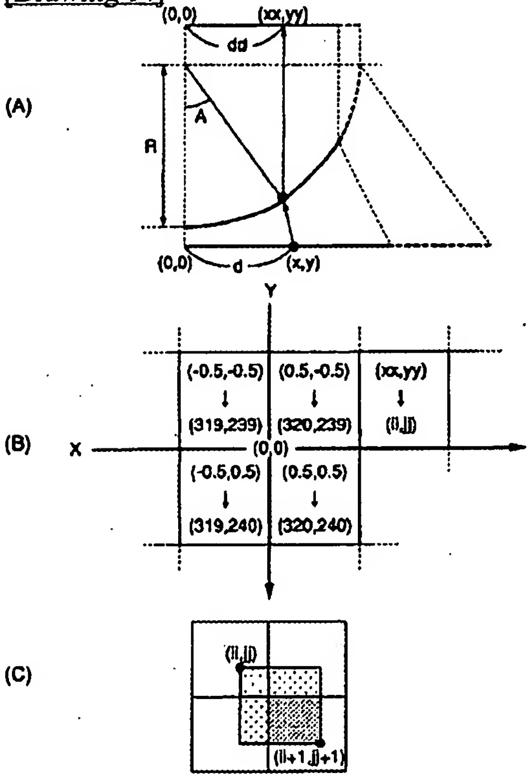
[Drawing 12]



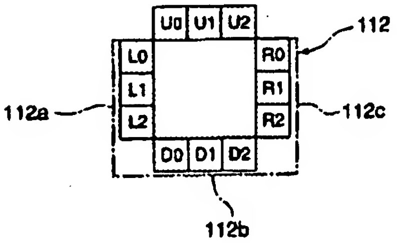
[Drawing 13]


(A)
Y
X
(319,239)
(-0.5,-0.5)
(320,239)
(0.5,-0.5)
(I,J)
(x,y)
(0,0)
(319,240)
(-0.5,0.5)
(320,240)
(0.5,0.5)
(B)
Y
X
(0,0)
角度α
距離d
y
x

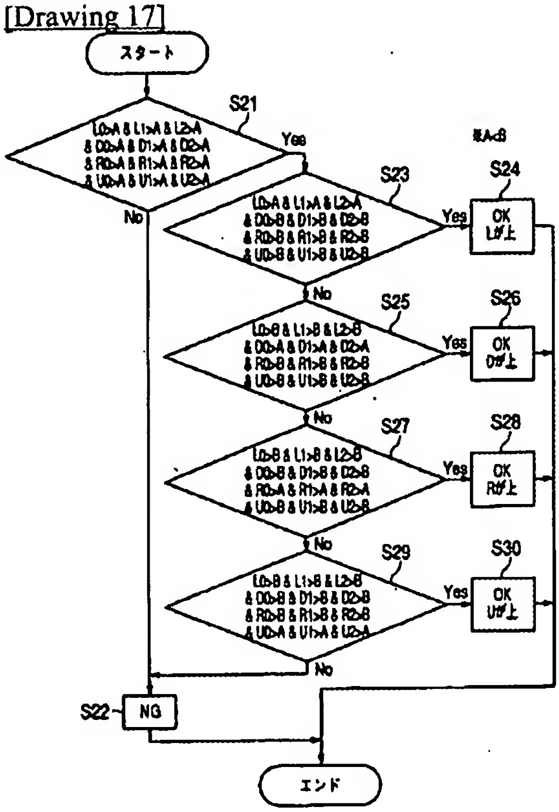
[Drawing 14]


(A)
(0,0)
(xx,yy)
dd
A
R
(0,0)
d
(x,y)
(B)
Y
X
(-0.5,-0.5)
(319,239)
(0.5,-0.5)
(320,239)
(xx,yy)
(II,JJ)
(0,0)
(-0.5,0.5)
(319,240)
(0.5,0.5)
(320,240)
(C)
(II,JJ)
(II+1,JJ+1)

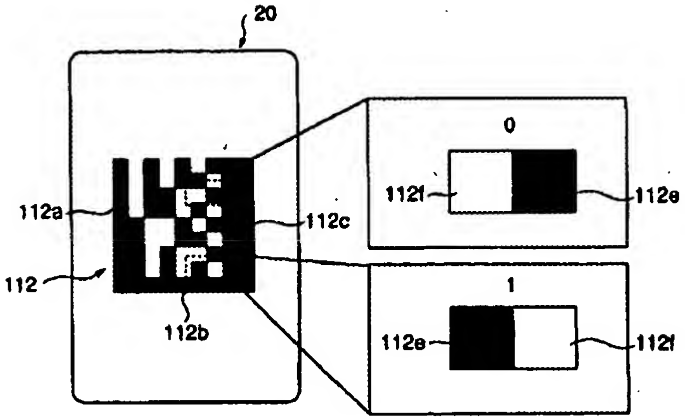
[Drawing 16]


U0
U1
U2
L0
L1
L2
R0
R1
R2
D0
D1
D2
112
112a
112b
112c

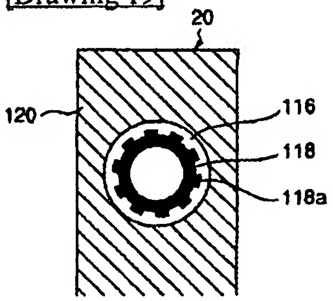
[Drawing 17]


スタート
S21
L0>A & L1>A & L2>A & D0>A & D1>A & D2>A & R0>A & R1>A & R2>A & U0>A & U1>A & U2>A
Yes
No
※A<B
S23
L0>A & L1>A & L2>A & D0>B & D1>B & D2>B & R0>B & R1>B & R2>B & U0>B & U1>B & U2>B
S24
OK Lが上
S25
L0>B & L1>B & L2>B & D0>A & D1>A & D2>A & R0>B & R1>B & R2>B & U0>B & U1>B & U2>B
S26
OK Dが上
S27
L0>B & L1>B & L2>B & D0>B & D1>B & D2>B & R0>A & R1>A & R2>A & U0>B & U1>B & U2>B
S28
OK Rが上
S29
L0>B & L1>B & L2>B & D0>B & D1>B & D2>B & R0>B & R1>B & R2>B & U0>A & U1>A & U2>A
S30
OK Uが上
Yes
No
S22
NG
エンド

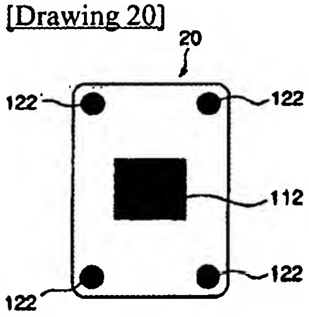
[Drawing 18]


20
0
112f
112e
112a
112c
112
1
112e
112f
112b

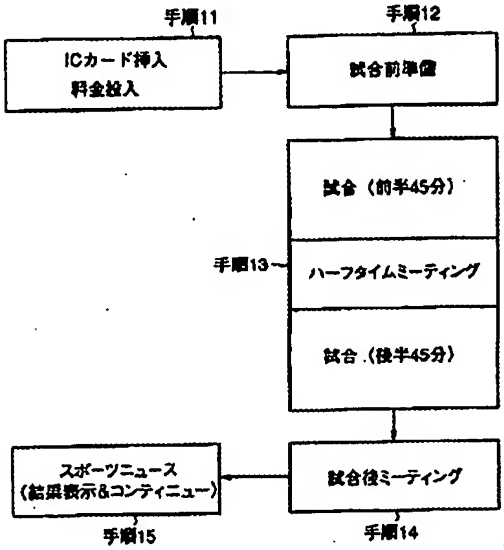
[Drawing 19]


20
120
116
118
118a

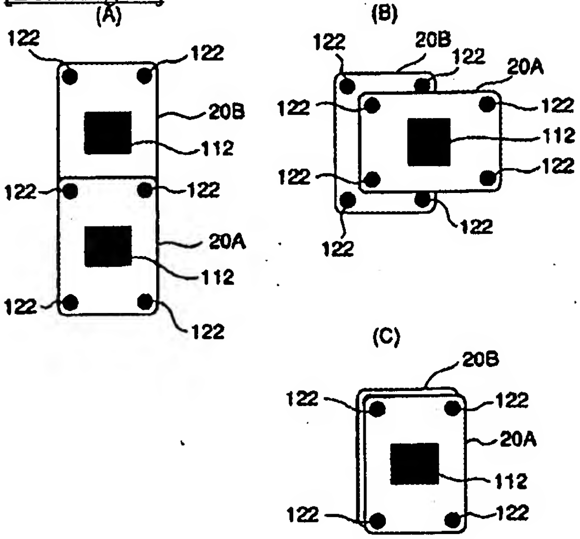
[Drawing 20]


20
122
122
112
122
122

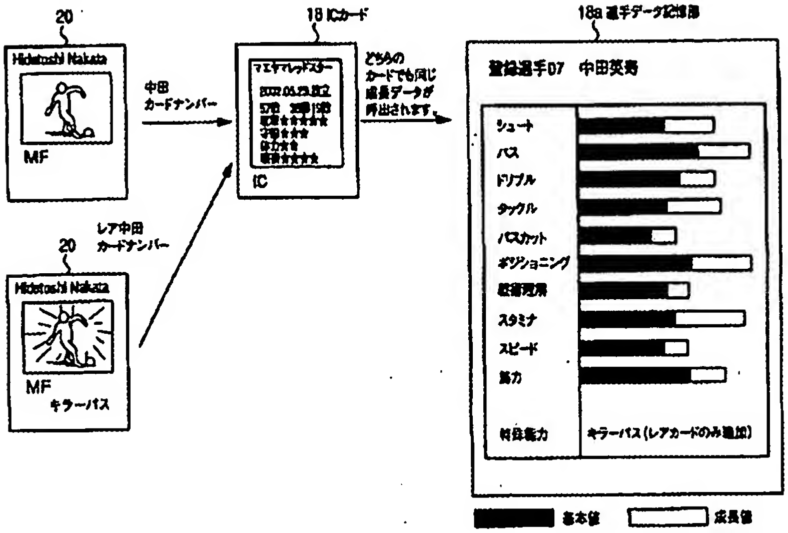
[Drawing 24]


手順11
ICカード挿入
料金投入
手順12
試合前準備
試合（前半45分）
手順13
ハーフタイムミーティング
試合（後半45分）
試合後ミーティング
手順14
スポーツニュース
（結果表示&コンティニュー）
手順15

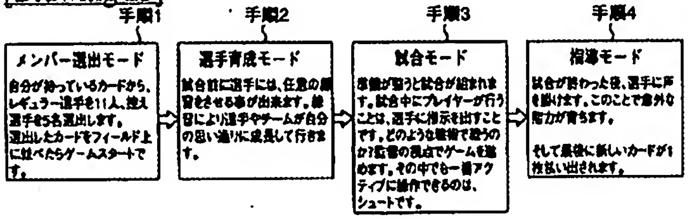
[Drawing 21]


(A)
122
122
20B
112
122
122
20A
112
122
122
(B)
122
20B
122
20A
122
122
112
122
122
122
122
(C)
20B
122
122
20A
112
122
122

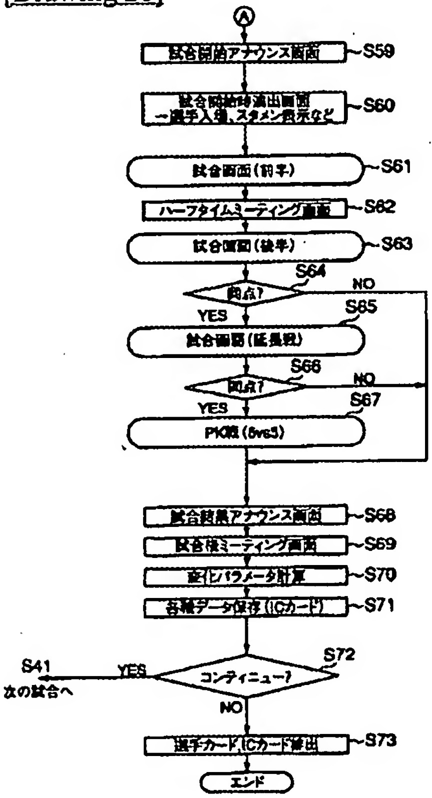
[Drawing 22]


20
Hidetoshi Nakata
MF
中田
カードナンバー
18 ICカード
IC
どちらのカードでも同じ成長データが呼出されます。
18a 選手データ記憶部
登録選手07 中田英寿
シュート
パス
ドリブル
タックル
パスカット
ポジショニング
戦術理解
スタミナ
スピード
筋力
特殊能力
キラーパス（レアカードのみ追加）
20
レア中田
カードナンバー
Hidetoshi Nakata
MF
キラーパス
基本値
成長値

[Drawing 23]

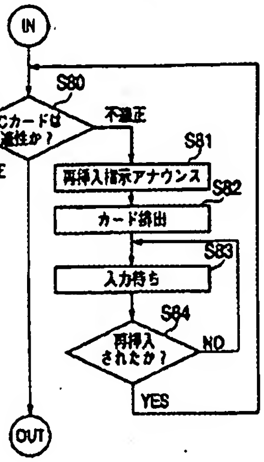

手順1
メンバー選出モード
自分が持っているカードから、レギュラー選手を11人、控え選手を5名選出します。選出したカードをフィールド上に並べたらゲームスタートです。
手順2
選手育成モード
試合前に選手には、任意の練習をさせる事が出来ます。練習により選手やチームが自分の思い通りに成長して行きます。
手順3
試合モード
準備が整うと試合が始まります。試合中にプレイヤーが行うことは、選手に指示を出すことです。どのような戦術で戦うのか?監督の視点でゲームを進めます。その中でも一番アクティブに操作できるのは、シュートです。
手順4
指導モード
試合が終わった後、選手に声を掛けます。このことで意外な能力が育ちます。
そして最後に新しいカードが1枚払い出されます。

[Drawing 26]

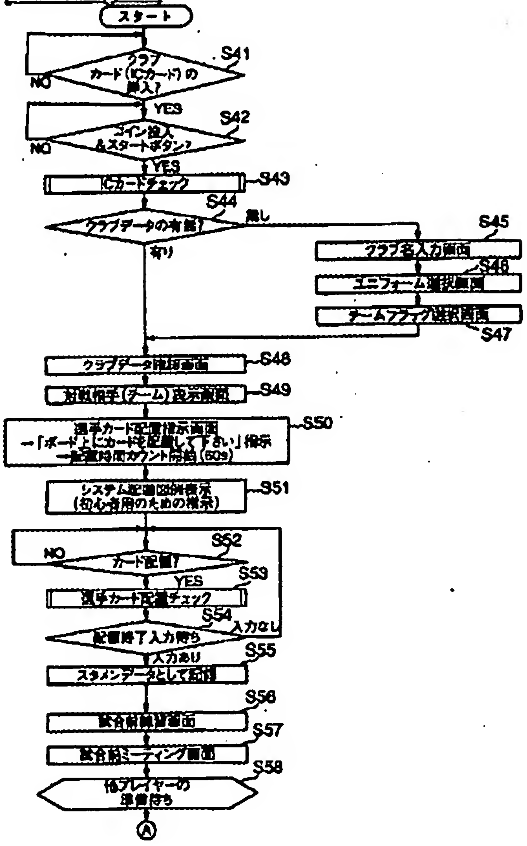

A
試合開始アナウンス画面
S59
試合開始時演出画面
→選手入場、スタメン表示など
S60
試合画面（前半）
S61
ハーフタイムミーティング画面
S62
試合画面（後半）
S63
S64
同点?
NO
YES
S65
試合画面（延長戦）
S66
同点?
NO
YES
S67
PK戦（5vs5）
試合結果アナウンス画面
S68
試合後ミーティング画面
S69
変化パラメータ計算
S70
各種データ保存（ICカード）
S71
S41
次の試合へ
YES
S72
コンティニュー?
NO
選手カード、ICカード排出
S73
エンド

[Drawing 27]

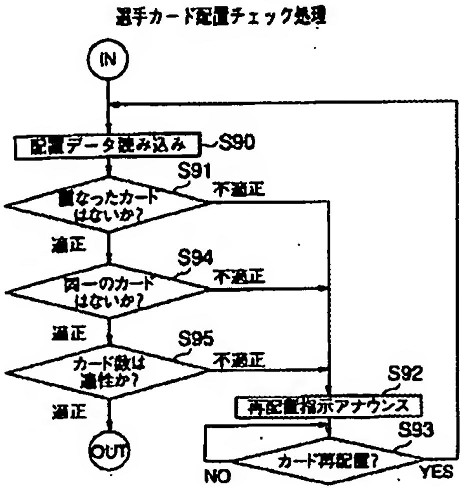
ICカードチェック処理


IN
S80
ICカードは適性か？
不適正
適正
S81
再挿入指示アナウンス
S82
カード排出
S83
入力待ち
S84
再挿入されたか？
NO
YES
OUT

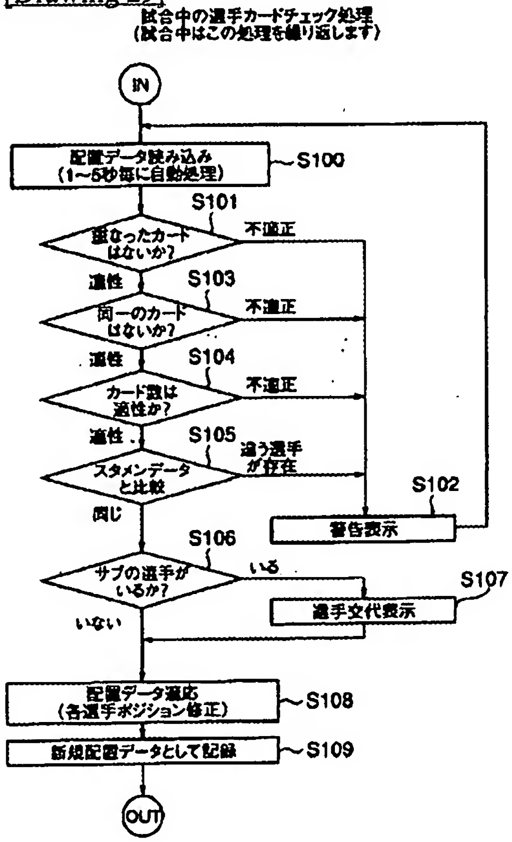
[Drawing 25]


スタート
S41
クラブカード（ICカード）の挿入？
NO
YES
S42
コイン投入&スタートボタン？
NO
YES
ICカードチェック
S43
S44
クラブデータの有無？
無し
有り
S45
クラブ名入力画面
S46
ユニフォーム選択画面
チームフラッグ選択画面
S47
クラブデータ閲覧画面
S48
対戦相手（チーム）表示画面
S49
選手カード配置指示画面
→「ボード上にカードを配置して下さい」指示
→配置時間カウント開始（60s）
S50
システム配置図例表示
（初心者用のための指示）
S51
NO
S52
カード配置？
YES
S53
選手カード配置チェック
S54
入力なし
配置終了入力待ち
入力あり
S55
スタメンデータとして記憶
S56
試合前練習画面
S57
試合前ミーティング画面
S58
他プレイヤーの準備待ち
A

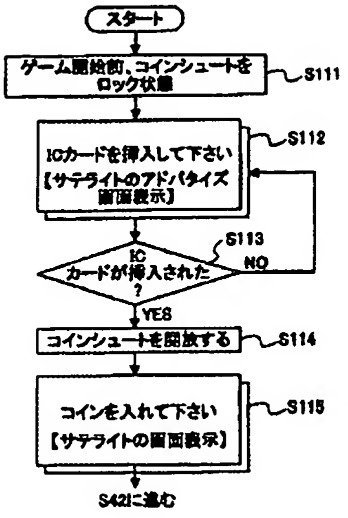
[Drawing 28]


選手カード配置チェック処理
IN
配置データ読み込み
S90
S91
重なったカードはないか?
不適正
適正
S94
同一のカードはないか?
不適正
適正
S95
カード数は適性か?
不適正
適正
OUT
S92
再配置指示アナウンス
S93
カード再配置?
NO
YES

[Drawing 29]

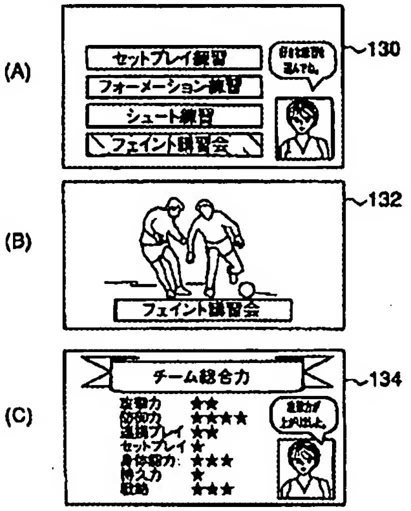

試合中の選手カードチェック処理
(試合中はこの処理を繰り返します)
IN
配置データ読み込み
(1~5秒毎に自動処理)
S100
S101
重なったカードはないか?
不適正
適性
S103
同一のカードはないか?
不適正
適性
S104
カード数は適性か?
不適正
適性
S105
スタメンデータと比較
違う選手が存在
S102
警告表示
同じ
S106
サブの選手がいるか?
いる
S107
選手交代表示
いない
配置データ適応
(各選手ポジション修正)
S108
新規配置データとして記録
S109
OUT

[Drawing 37]


スタート
ゲーム開始前、コインシュートをロック状態
S111
ICカードを挿入して下さい【サテライトのアドバタイズ画面表示】
S112
ICカードが挿入された？
S113
NO
YES
コインシュートを開放する
S114
コインを入れて下さい【サテライトの画面表示】
S115
S42に進む

[Drawing 30]

育成モード


(A)
セットプレイ練習
フォーメーション練習
シュート練習
フェイント講習会
130
(B)
フェイント講習会
132
(C)
チーム総合力
攻撃力 ★★
防御力 ★★★★
連携プレイ ★★
セットプレイ ★
身体能力 ★★★
持久力 ★
経験 ★★★
能力が上がりました。
134

メニューの中から成長させたい、練習を選びます。

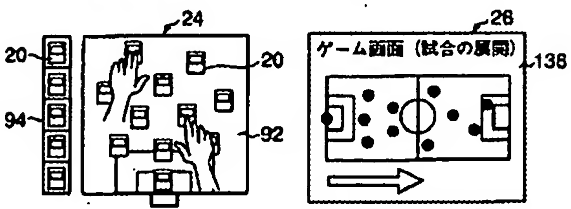
選んだメニューの練習を行ないます。

プレイヤー選手は簡単なゲーム（操作）をします。

練習が上手くできると、その分だけ能力が上がります。

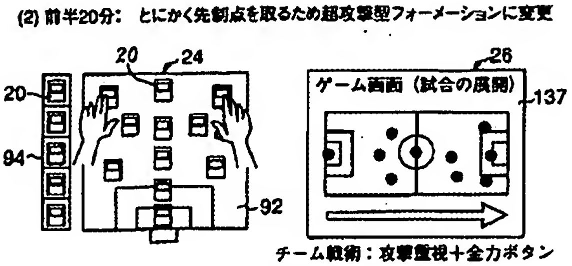
[Drawing 31]

(1) 試合開始直後： スタメン初期フォーメーションで様子見

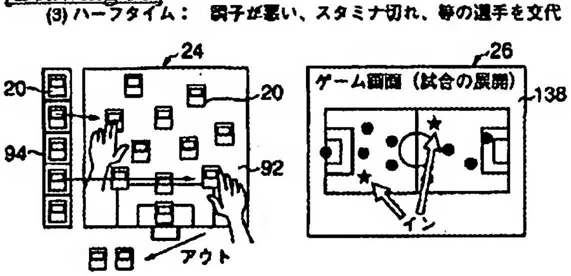

24
20
20
94
92
26
ゲーム画面（試合の展開）
136

チーム戦術：攻守バランス

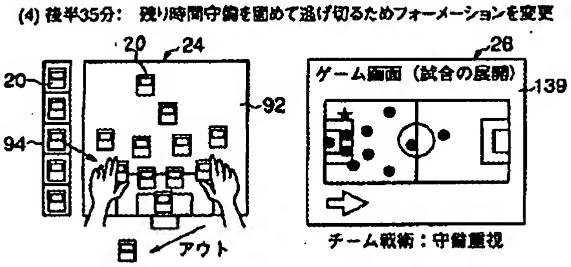
[Drawing 32]


(2) 前半20分：　とにかく先制点を取るため超攻撃型フォーメーションに変更
20
24
20
94
92
26
ゲーム画面（試合の展開）
137
チーム戦術：攻撃重視＋全力ボタン

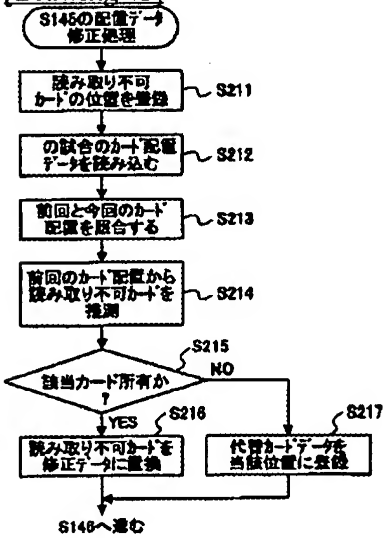
[Drawing 33]


(3) ハーフタイム：　調子が悪い、スタミナ切れ、等の選手を交代
24
20
20
94
92
アウト
26
ゲーム画面（試合の展開）
138
イン

[Drawing 34]

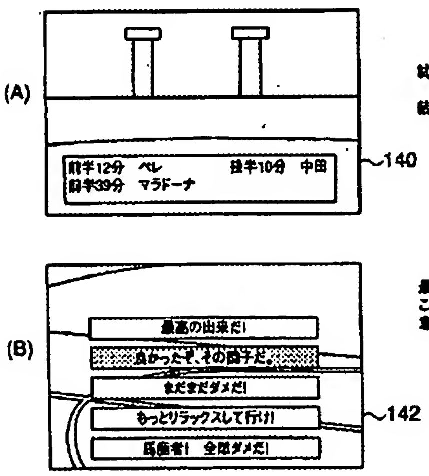

(4) 後半35分：　残り時間守備を固めて逃げ切るためフォーメーションを変更
20
24
20
94
92
アウト
26
ゲーム画面（試合の展開）
139
チーム戦術：守備重視

[Drawing 43]


S146の配置データ修正処理
読み取り不可カードの位置を登録
S211
の試合のカード配置データを読み込む
S212
前回と今回のカード配置を照合する
S213
前回のカード配置から読み取り不可カードを推測
S214
S215
該当カード所有か？
NO
YES
S216
S217
読み取り不可カードを修正データに置換
代替カードデータを当該位置に登録
S146へ進む

[Drawing 35]

反省モード

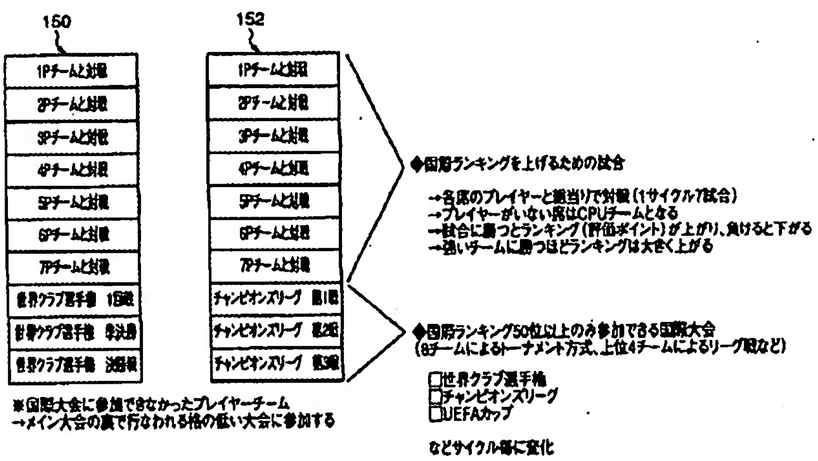

(A)
前半12分 ペレ
後半10分 中田
前半39分 マラドーナ
140
(B)
最高の出来だ!
良かったぞ、その調子だ。
まだまだダメだ!
もっとリラックスして行け!
馬鹿者! 全部ダメだ!
142

試合の最後に結果が表示されます。

結果の外には、チームの評価とランクが表示されます。

最後に選手に一声かけます。
このことでチームとプレイヤー(監督)の信頼関係など
意外なパラメータが成長します。

[Drawing 36]


第1サイクル(世界クラブ選手権) → 第2サイクル(チャンピオンズリーグ) ……→ 全部で10種類のサイクルを用意
150
152
1Pチームと対戦
2Pチームと対戦
3Pチームと対戦
4Pチームと対戦
5Pチームと対戦
6Pチームと対戦
7Pチームと対戦
世界クラブ選手権 1回戦
世界クラブ選手権 準決勝
世界クラブ選手権 決勝戦
チャンピオンズリーグ 第1戦
チャンピオンズリーグ 第2戦
チャンピオンズリーグ 第3戦

◆国際ランキングを上げるための試合

→各国のプレイヤーと総当りで対戦(1サイクル7試合)
→プレイヤーがいない国はCPUチームとなる
→試合に勝つとランキング(評価ポイント)が上がり、負けると下がる
→強いチームに勝つほどランキングは大きく上がる

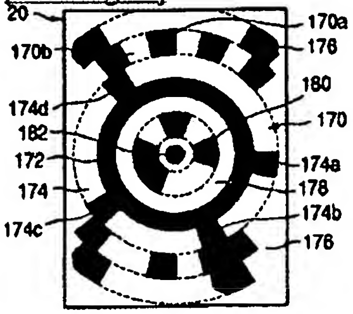
◆国際ランキング50位以上のみ参加できる国際大会
(8チームによるトーナメント方式、上位4チームによるリーグ戦など)

□世界クラブ選手権
□チャンピオンズリーグ
□UEFAカップ

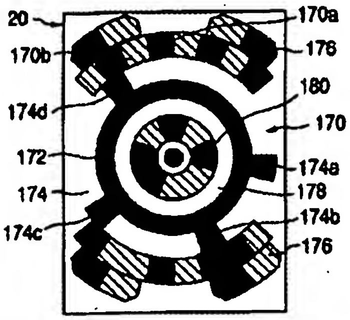
などサイクル毎に変化

※国際大会に参加できなかったプレイヤーチーム
→メイン大会の裏で行なわれる格の低い大会に参加する

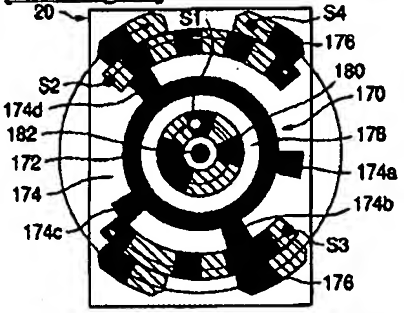
[Drawing 49]


20
170a
170b
176
180
174d
170
182
172
174a
174
178
174b
174c
176

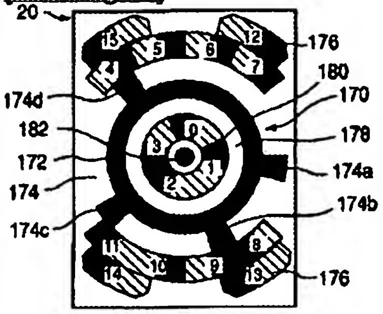
[Drawing 50]


20
170a
170b
176
180
174d
170
172
174a
174
178
174b
174c
176

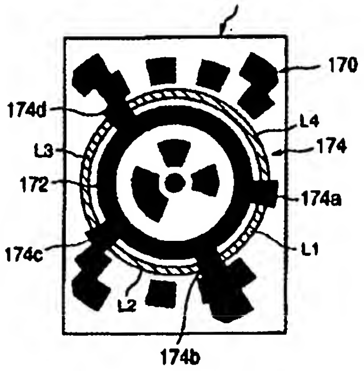
[Drawing 51]


20
S1
S4
176
180
S2
170
174d
178
182
172
174a
174
174b
174c
S3
176

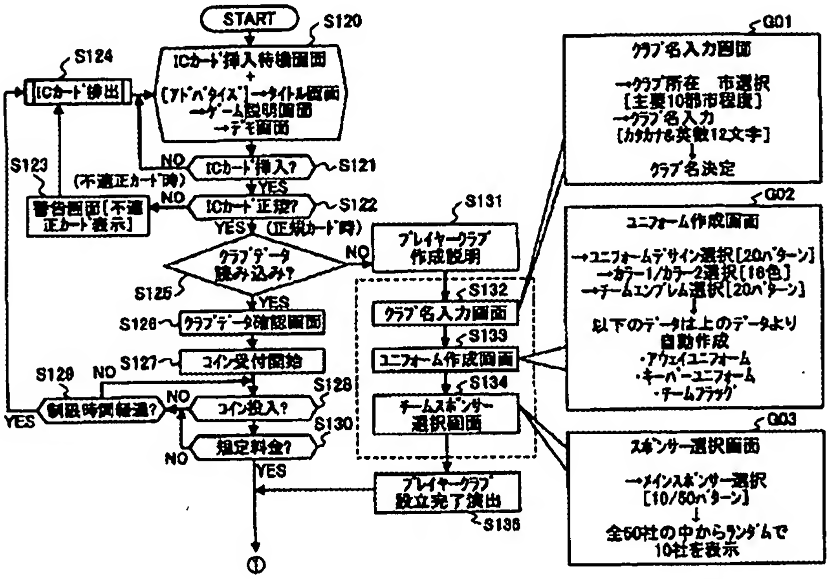
[Drawing 52]


20
15
5
6
12
7
4
176
180
174d
170
182
0
3
1
2
178
172
174a
174
174b
174c
11
10
9
8
14
13
176

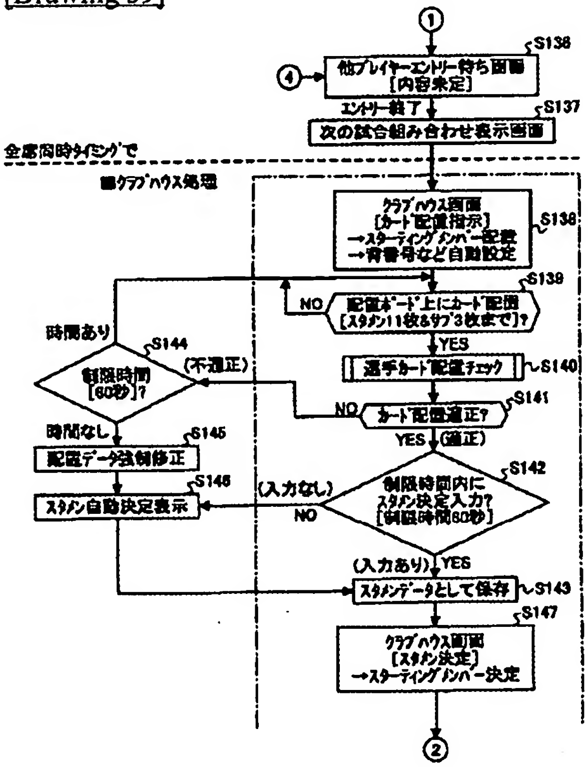
[Drawing 54]


20
170
174d
L4
L3
174
172
174a
174c
L1
L2
174b

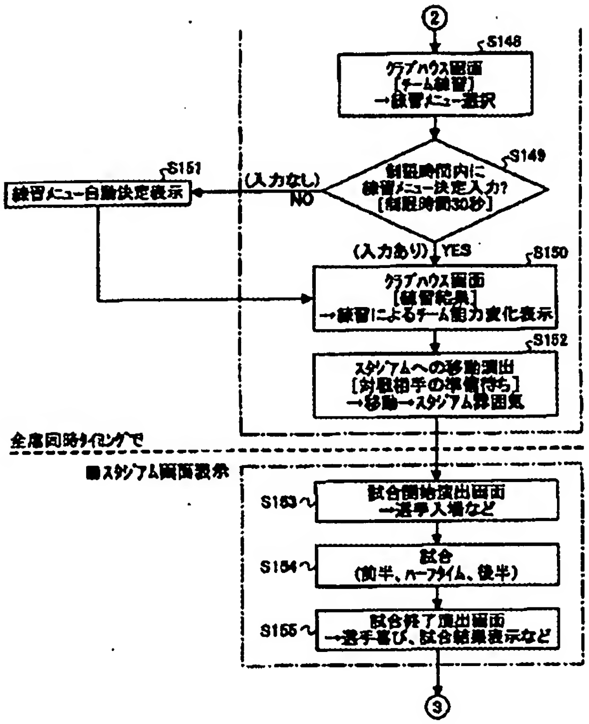
[Drawing 38]


START
S120
ICカード挿入待機画面
+
(アドバタイズ)→タイトル画面
→ゲーム説明画面
→デモ画面
S124
ICカード排出
NO
ICカード挿入?
S121
YES
S123
(不適正カード時)
NO
ICカード正規?
S122
警告画面[不適正カード表示]
YES
(正規カード時)
クラブデータ読み込み?
NO
S125
YES
S126
クラブデータ確認画面
S127
コイン受付開始
S129
NO
S128
NO
制限時間経過?
YES
コイン投入?
S130
規定料金?
NO
YES
①
S131
プレイヤークラブ作成説明
S132
クラブ名入力画面
S133
ユニフォーム作成画面
S134
チームスポンサー選択画面
プレイヤークラブ設立完了演出
S136
G01
クラブ名入力画面
→クラブ所在 市選択
[主要10都市程度]
→クラブ名入力
[カタカナ&英数12文字]
クラブ名決定
G02
ユニフォーム作成画面
→ユニフォームデザイン選択[20パターン]
→カラー1/カラー2選択[16色]
→チームエンブレム選択[20パターン]
以下のデータは上のデータより
自動作成
・アウェイユニフォーム
・キーパーユニフォーム
・チームフラッグ
G03
スポンサー選択画面
→メインスポンサー選択
[10/50パターン]
全50社の中からランダムで
10社を表示

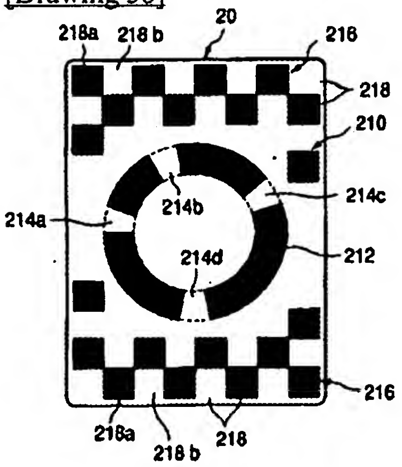
[Drawing 39]


①
S136
④
他プレイヤーエントリー待ち画面
[内容未定]
エントリー終了
S137
次の試合組み合わせ表示画面
全席同時タイミングで
■クラブハウス処理
クラブハウス画面
[カード配置指示]
→スターティングメンバー配置
→背番号など自動設定
S138
S139
NO
配置ボード上にカード配置
[スタメン11枚&サブ3枚まで]?
YES
選手カード配置チェック
S140
時間あり
S144
制限時間
[60秒]?
(不適正)
NO
カード配置適正?
S141
YES
(適正)
時間なし
S145
配置データ強制修正
S146
スタメン自動決定表示
(入力なし)
NO
制限時間内に
スタメン決定入力?
[制限時間60秒]
S142
(入力あり)
YES
スタメンデータとして保存
S143
S147
クラブハウス画面
[スタメン決定]
→スターティングメンバー決定
②

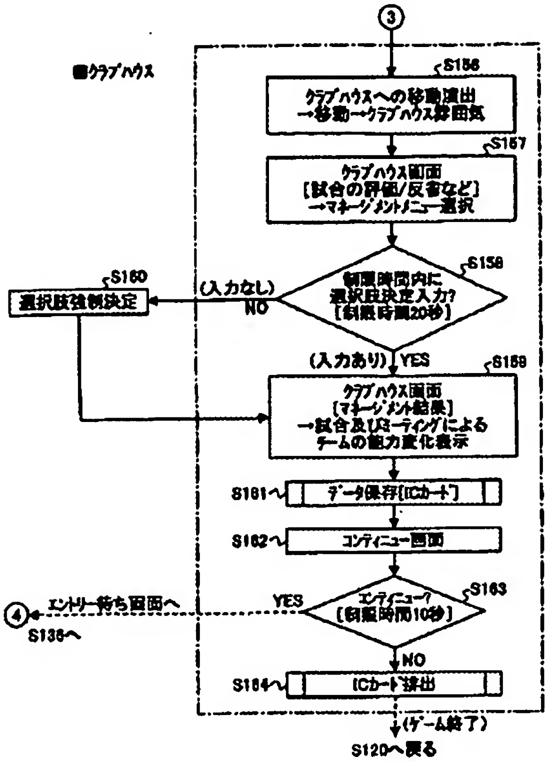
[Drawing 40]


②
S148
クラブハウス画面
[チーム練習]
→練習メニュー選択
S149
制限時間内に
練習メニュー決定入力?
[制限時間30秒]
(入力なし)
NO
S151
練習メニュー自動決定表示
(入力あり)
YES
S150
クラブハウス画面
[練習結果]
→練習によるチーム能力変化表示
S152
スタジアムへの移動演出
[対戦相手の準備待ち]
→移動→スタジアム雰囲気
全店同時タイミングで
■スタジアム画面表示
S153
試合開始演出画面
→選手入場など
S154
試合
(前半、ハーフタイム、後半)
S155
試合終了演出画面
→選手喜び、試合結果表示など
③

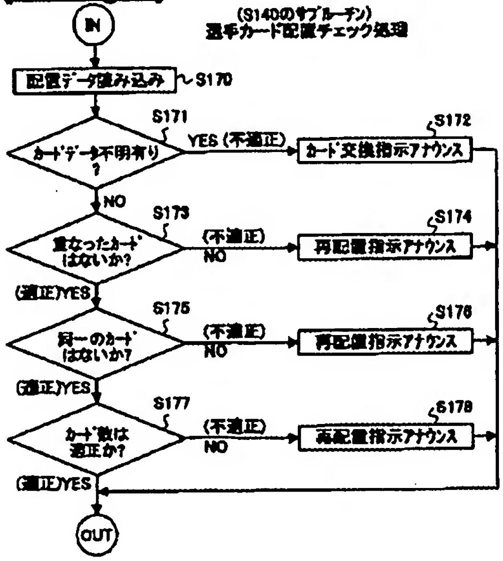
[Drawing 58]


218a
218 b
20
216
218
210
214c
214a
214b
214d
212
216
218a
218 b
218

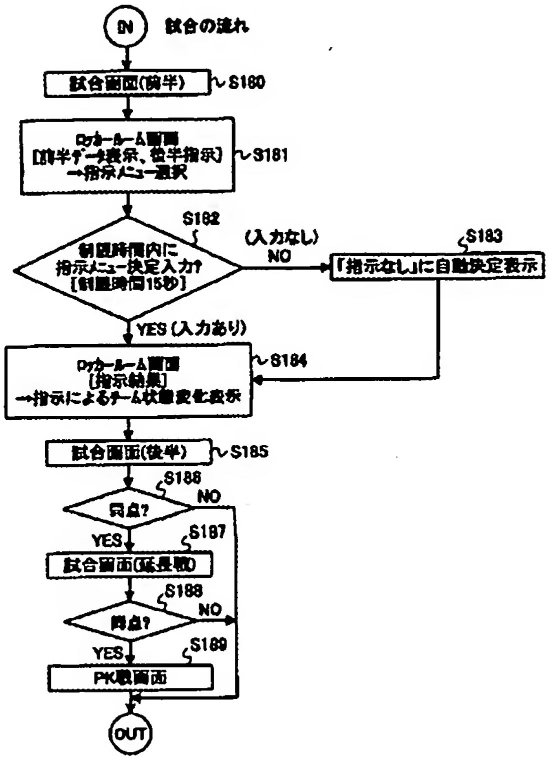
[Drawing 41]


③
■クラブハウス
S156
クラブハウスへの移動演出
→移動→クラブハウス雰囲気
S157
クラブハウス画面
[試合の評価/反省など]
→マネージメントメニュー選択
S158
制限時間内に
選択肢決定入力?
[制限時間20秒]
(入力なし)
NO
S160
選択肢強制決定
(入力あり)
YES
S159
クラブハウス画面
[マネージメント結果]
→試合及びミーティングによる
チームの能力変化表示
S161
データ保存[ICカード]
S162
コンティニュー画面
S163
コンティニュー?
[制限時間10秒]
YES
④
エントリー待ち画面へ
S135へ
NO
S164
ICカード排出
(ゲーム終了)
S120へ戻る

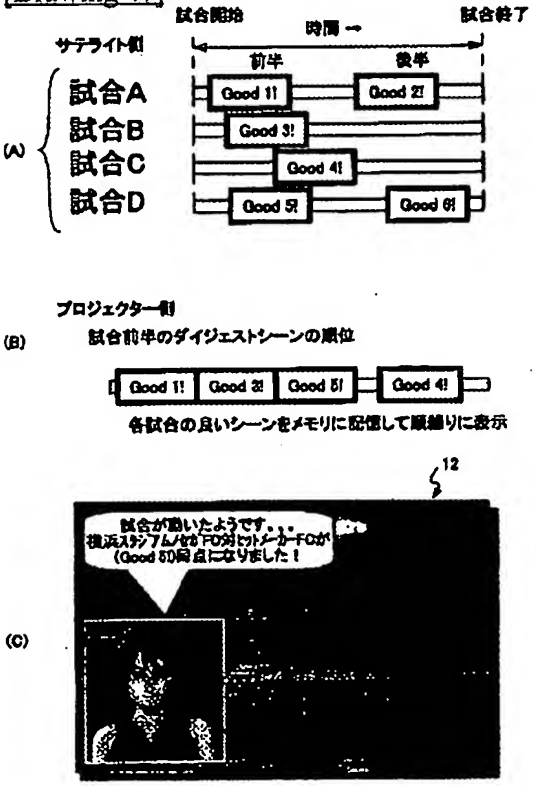
[Drawing 42]


(S140のサブルーチン)
選手カード配置チェック処理
IN
配置データ読み込み
S170
S171
カードデータ不明有り
?
YES (不適正)
S172
カード交換指示アナウンス
NO
S173
重なったカード
はないか?
(不適正)
NO
S174
再配置指示アナウンス
(適正)YES
S175
同一のカード
はないか?
(不適正)
NO
S176
再配置指示アナウンス
(適正)YES
S177
カード数は
適正か?
(不適正)
NO
S178
再配置指示アナウンス
(適正)YES
OUT

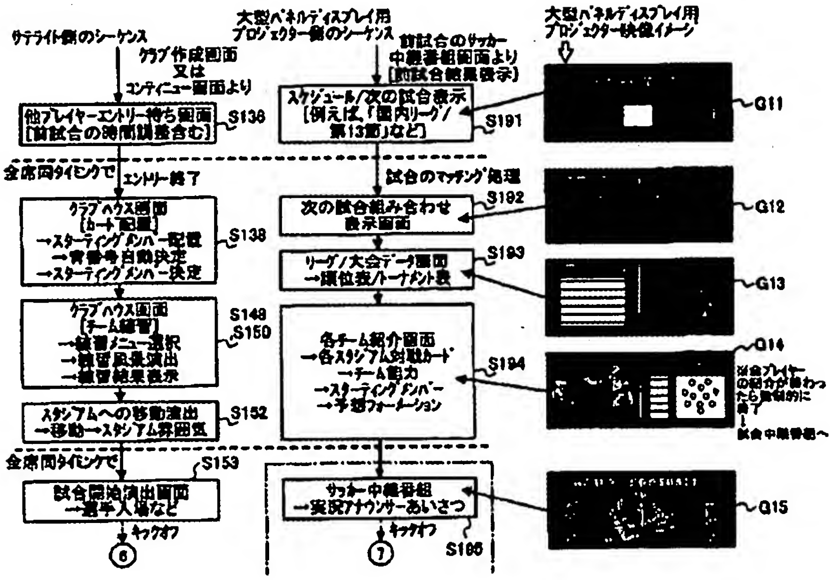
[Drawing 44]


IN
試合の流れ
試合画面(前半)
S180
ロッカールーム画面
[前半データ表示、後半指示]
→指示メニュー選択
S181
S182
制限時間内に
指示メニュー決定入力?
[制限時間15秒]
(入力なし)
NO
S183
「指示なし」に自動決定表示
YES (入力あり)
ロッカールーム画面
[指示結果]
→指示によるチーム状態変化表示
S184
試合画面(後半)
S185
S186
同点?
NO
YES
S187
試合画面(延長戦)
S188
同点?
NO
YES
S189
PK戦画面
OUT

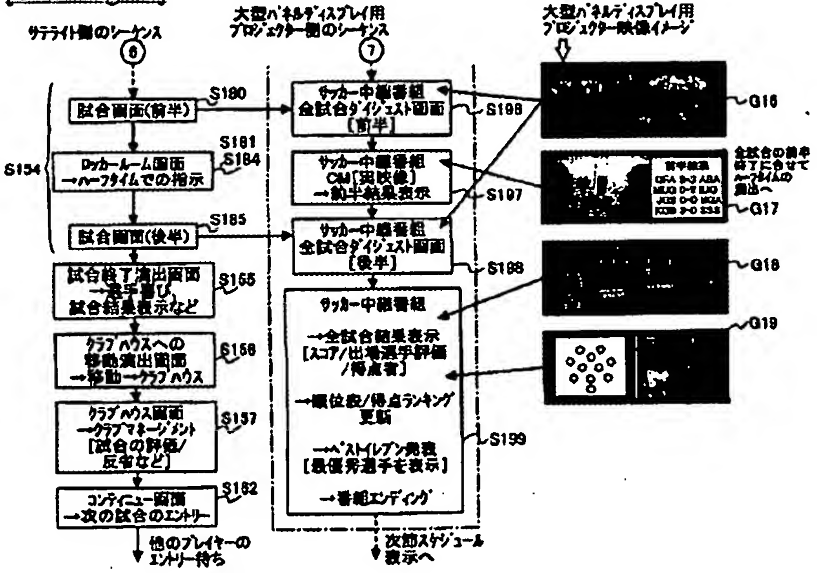
[Drawing 47]


試合開始
時間 →
試合終了
サテライト側
前半
後半
(A)
試合A
試合B
試合C
試合D
Good 1!
Good 2!
Good 3!
Good 4!
Good 5!
Good 6!
(B)
プロジェクター側
試合前半のダイジェストシーンの順位
Good 1!
Good 2!
Good 5!
Good 4!
各試合の良いシーンをメモリに記憶して順繰りに表示
(C)
12
試合が動いたようです。。。
横浜スタジアム/セト FC対ヒットメーカーFCが
(Good 5!)同点になりました！

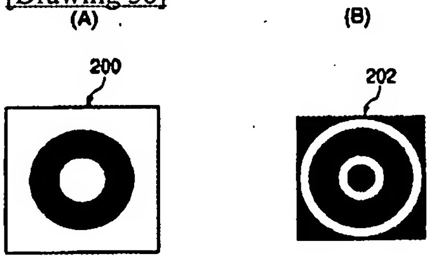
[Drawing 45]


サテライト側のシーケンス
クラブ作成画面
又は
コンティニュー画面より
他プレイヤーエントリー待ち画面
[前試合の時間調整含む]
S136
全席同タイミングで
エントリー終了
クラブハウス画面
[カード配置]
→スターティングメンバー配置
→背番号自動決定
→スターティングメンバー決定
S138
クラブハウス画面
[チーム練習]
→練習メニュー選択
→練習風景演出
→練習結果表示
S148
S150
スタジアムへの移動演出
→移動→スタジアム雰囲気
S152
全席同タイミングで
S153
試合開始演出画面
→選手入場など
キックオフ
⑥
大型パネルディスプレイ用
プロジェクター側のシーケンス
前試合のサッカー
中継番組画面より
[前試合結果表示]
スケジュール/次の試合表示
[例えば、「国内リーグ/
第13節」など]
S191
試合のマッチング処理
次の試合組み合わせ
表示画面
S192
リーグ/大会データ画面
→順位表/トーナメント表
S193
各チーム紹介画面
→各スタジアム対戦カード
→チーム能力
→スターティングメンバー
→予想フォーメーション
S194
サッカー中継番組
→実況アナウンサーあいさつ
キックオフ
⑦
S195
大型パネルディスプレイ用
プロジェクター映像イメージ
G11
G12
G13
G14
※全プレイヤーの紹介が終わったら自動的に終了
↓
試合中継番組へ
G15

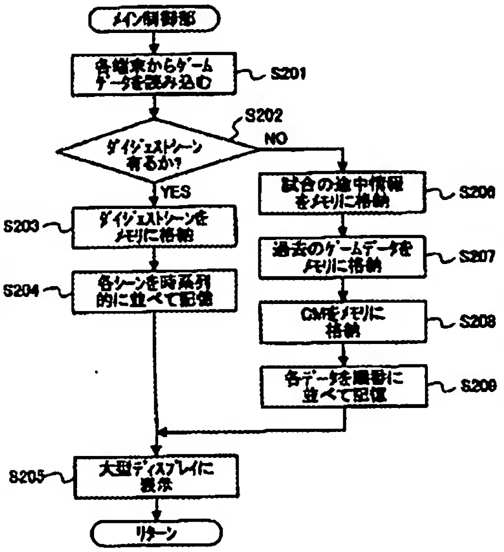
## [Drawing 46]


サテライト側のシーケンス
⑥
S154
試合画面(前半)
S180
ロッカールーム画面
→ハーフタイムでの指示
S181
S184
試合画面(後半)
S185
試合終了演出画面
→選手喜び
試合結果表示など
S155
クラブハウスへの
移動演出画面
→移動→クラブハウス
S156
クラブハウス画面
→クラブマネージメント
[試合の評価/
反省など]
S157
コンティニュー画面
→次の試合のエントリー
S162
他のプレイヤーの
エントリー待ち
大型パネルディスプレイ用
プロジェクター側のシーケンス
⑦
サッカー中継番組
全試合ダイジェスト画面
[前半]
S196
サッカー中継番組
CM[実映像]
→前半結果表示
S197
サッカー中継番組
全試合ダイジェスト画面
[後半]
S198
サッカー中継番組
→全試合結果表示
[スコア/出場選手評価
/得点者]
→順位表/得点ランキング
更新
→ベストイレブン発表
[最優秀選手を表示]
→番組エンディング
S199
次節スケジュール
表示へ
大型パネルディスプレイ用
プロジェクター映像イメージ
G16
全試合の前半
終了に合せて
ハーフタイムの
演出へ
G17
G18
G19

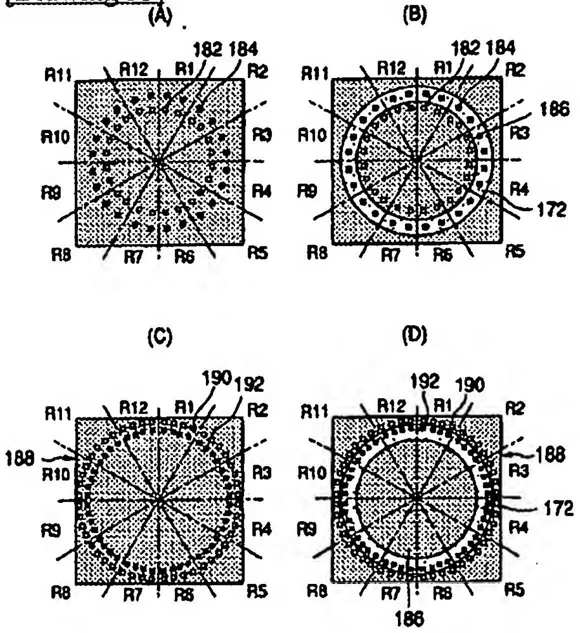
## [Drawing 56]


(A)　　(B)

## [Drawing 48]

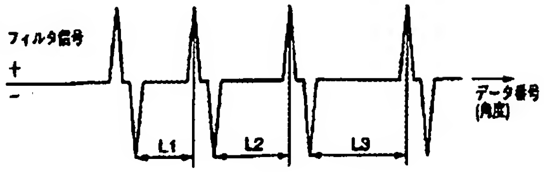

メイン制御部
各端末からゲームデータを読み込む
S201
S202
ダイジェストシーン有るか?
NO
YES
S203
ダイジェストシーンをメモリに格納
S204
各シーンを時系列的に並べて記憶
試合の途中情報をメモリに格納
S206
過去のゲームデータをメモリに格納
S207
CMをメモリに格納
S208
各データを順番に並べて記憶
S209
S205
大型ディスプレイに表示
リターン

[Drawing 53]

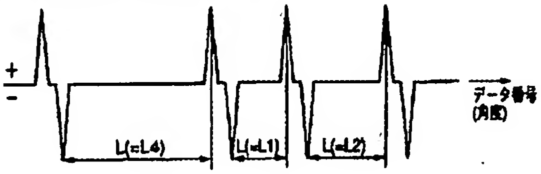

(A)
(B)
(C)
(D)
182
184
186
188
190
192
172
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12

[Drawing 55]

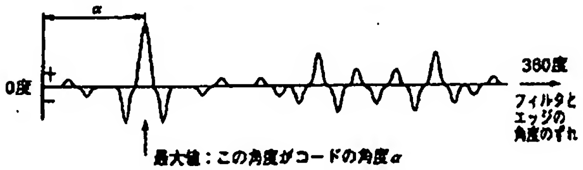
(A) フィルタ信号



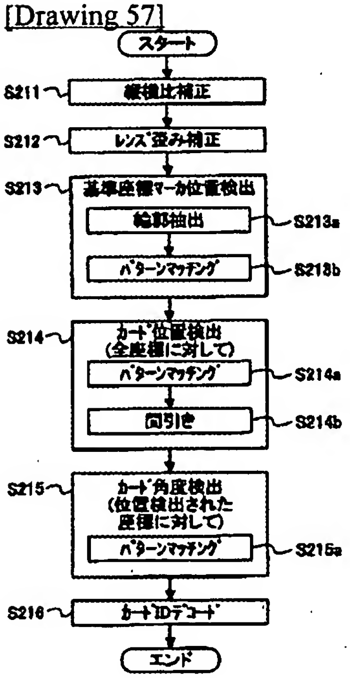
(B) カードより抽出したエッジの検出信号



(C) フィルタ信号とエッジ検出信号の掛け合わせの合計値の検出信号



[Drawing 57]


スタート
S211
縦横比補正
S212
レンズ歪み補正
S213
基準座標マーカ位置検出
輪郭抽出
S213a
パターンマッチング
S213b
S214
カード位置検出
(全座標に対して)
パターンマッチング
S214a
間引き
S214b
S215
カード角度検出
(位置検出された座標に対して)
パターンマッチング
S215a
S216
カードIDデコード
エンド

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[Translation done.]